TAMIL CIVILIZATION

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Tamil Civilization
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THE PROTO-CULTURE OF THE DRAVIDIANS, MANDING AND SUMERIANS

Clyde-Ahmad Winters

The Dravidians and Sumerians in prehistoric times lived in Saharan Africa. These proto-Dravidians were in contact with the Manding and Sumerian speakers. In this paper I propose to use socio-linguistic data to discuss and outline aspects of the proto-culture of the Dravidians, Manding and the Sumerians. These people who lived in different areas separated by thousands of miles spoke similar languages (Winters 1985).

It has long been recognized that the Dravidians in India, and the Sumerians of Mesopotamia, along with the Manding of West Africa, show similar physical and cultural features. The anthropological evidence and linguistic data suggest that these people are derived from a common ancestor that separated as early as 4000-2800 BC (Winters 1983b:14-15).

The original homeland of the Dravidians, Manding and Sumerians was Middle Africa. Therefore I call the ancestors of these ethnic groups the Proto-Saharans. The homeland of the Proto-Saharans was the Libyan and Sudanese deserts. It was in this region between 9000-6000 BC, that the elements of Proto-Saharan culture were created (map 1).

In the southern Sahara during the Middle Paleolithic, the Proto-Saharans might have domesticated cattle. In Chad and Libya, the remains of cattle are associated with pre-historic hearths, dating between 7,500 and nearly 10,000 years before the present (BP)(Wendorf et al 1985:-136-37).

Often wild ass, Barbary sheep, hyena and hare were associated with wild cattle in the Sahara. Bones of domesticated cattle have come from Saharan sites such as Ti-n-Torha and Uan Muhuggiag.

During the same period when cattle were found near hearths of Proto-Saharan settlements, these people were collecting grain. Some of the early Saharan sites show evidence of slab-lined storage pits. Often the houses during the Neolithic, had large stones situated around the perimeter (Fig.2).

Ethnically the Proto-Saharans were round-headed Mediterraneans of the ancient variety. Around 7000 BC, Mediterraneans of a fairly tall stature not devoid of negroid characteristics appear in the Sahara at Capsa (now Cafsa). (Desanges 1981:424 -25). These Mediterraneans are called Capsians. This group flourished in

an area extending from the western most borders of north Africa, into the southern Sahara.

The Proto-Saharans lived on hillocks or slopes near water. But some Capsians lived on plains which featured lakes and marshes (Fig.6). Their way of life continued from the neolithic era up to the time of the Garamante (a group of Manding speakers) (Winters 1983a:210; 1983b:15).

Ceramics spread from the central and eastern Sahara into north Africa. These ceramics were of Sudanese inspiration and date back to the seventh millennium BC. This pottery was used from Ennedi, to Hoggar. The makers of this pottery were probably from the Sudan. (Desanges 1981). The Capsian pottery tradition first appeared at Saoura, and later at Fort Flatters. This type of pottery probably originated at Elementeita, Kenya (Ki-Zerbo 1979:42) (map 2).

Skeletons of the Mediterranean type have been found throughout Middle Africa, Southeast Asia, Mesopotamia, the Indo-Pakistan region and even Central Asia. It is no secret that the founders of ancient Egypt, Elam, Sumer and the Indus Valley were all of the Mediterranean type. In the ancient inscriptions many Proto-Saharans were called *KUSHITES*. These Kushites were also called Saka, Kushana, Kutians, Kus and Qus (Lacouperie 1886:28-29; Winters 1982).

The Proto-Saharans used a - common black-and-red ware that has been found from the Sudan, across Southwest Asia and the Subcontinent all the way into China (Singh 1982: xxiv). Prof.B.B.Lal (1963), proved conclusively that the Dravidians were genetically related to the C group of Nubia, given the fact that both groups used (1) a common black-and-red ware, (2) a common burial complex incorporating megaliths and circular rock enclosures, and (3) a common form of rock cut sepulchres. This black-and-red ceramic industry diffused from Nubia, into Rajastan, and thence to East, Central and South India (Rao 1972). The earliest examples of the black-and-red ware common to the Proto-Saharans, date to the early Amratian period (c.4000-3500 BC).

By 6000 BC, the Proto-Saharans lived in well organized villages. There was little standing water so the Proto-Saharans dug deep large walk-in-wells so people could walk down to the water. At these villages cattle were present. Plus the farmers grew domesticated six-row barley.

Aridity arrived in the Sahara around 5900-5800 BC. In 5800 BC, settled life returned to the Sahara. During this period goat and domesticated emmer wheat is cultivated along with six-row barley.

Due to the richness of the flora and fauna in the Sahara 8000 BP, ethnic groups in Middle Africa were semi-sedentary hunter-fisher gatherers who engaged in the exploitation of their habitat. In the early period the Proto-Saharans may have had a limited interest in the domestication of plants and animals. But it was not until the return of arid climate to the Sahara between 12,000-7000 BC, that the Proto-Saharans were forced to domesticate cattle and goats to ensure a reliable source of food.

Pastoralism and fishing preceded food production in the ancient Sahara. It appears that a hunter-fisher-gatherer group which clearly specialized in the hunting of animals (as evidenced by the abundance of arrowheads) became animal herders, since they were keenly aware of the habits of game and therefore made the shift from hunter-fisher-gatherer to animal husbandry rapidly once climatic conditions in the Sahara made it impossible to collect grains.

Moderate climatic conditions made it possible for the Proto-Saharans to engage in intensive plant domestication. Food surpluses led to the rise of towns and cities, complex political organization, social ranking of individuals in society, and craft specialization as certain clans and ethnic groups became more sedentary (Fig.4).

The linguistic evidence indicates that the Proto-Saharans practised a form of intensive agriculture characterized by the use of the hoe, related water storage and irrigation techniques plus the application of fertilizers to the cultivated land (Fig.2).

The ability to produce surplus food led to an increase in population, changes in social organization and class distinctions (Fig.5). Naturally, population increases forced the ancestors of the Proto-Saharans to spill over into more marginal areas. This population pressure probably forced many Proto-Saharan clans to domesticate plants and animals to preserve traditional levels of food production.

The ancestors of the Dravidians, Manding and Sumerians were organized into a federal system during the neolithic subpluvial. These early Proto-Saharans made adequate uses of local game and plant life and they established permanent and seasonal settlements around well stocked fishing holes. They lived on plains, punctuated by mountains and numerous points of inundation due to the frequency of rain in the ancient Sahara (Fig.6).

The early ability to find permanent sources of food and shelter during the neolithic by the Proto-Dravidians, and other Proto-Saharans led to increased domestic functioning of the woman, since hunting and the constant search for herds of game, as a source of food was no longer that important. The stability of the hearth maintained by the women led to the development of a matriarchal system. In addition to a matrilineal pattern of inheritance among these people, women had equal rights to the men.

Women created agriculture. Thus, the term *ma*, appears in the languages spoken by the descendants of the Proto-Saharans, e.g., Dravidians and Manding to denote both 'mother', and 'earth, area'.

The Proto-Saharans claimed descent from the *Maa* or Fish Confederation. The *Maa* Confederation includes the Egyptians, Elamites, Dravidians, Manding and Sumerians. In honour of this great ancestor: *Maa*, they worshipped a god called: *Amun*, *Amon* or *Amma*. In honour of this great ancestor the descendants of the Proto-Saharans use the term Ma, to denote greatness or highness, e.g., Manding Maga and Dravidian Ma. Other Proto-Saharan tribes claimed direct descent from the great Maa, founder of the Fish Confederation. For example, the Manding

call themselves Ma-nde (the children of Ma) and the Sumerians called themselves Mah-Gar-ri (exalted God's children).

The Proto-Saharans share place-names. Evidence for shared place names has been discovered by Dr. Vamos-Toth Bator (1983). Dr. Vamos-Toth, calls this ancient civilization -- root culture -- *Tamana*. The term *Tamana* can be interpreted in the Manding and Dravidian languages as 'Strongplace', 'Stronghold' or 'Original Settlement'. The term *Tamana* is one of over 1,000,000 place names Dr. Vamos-Toth has found which link Africa, Asia and Europe. The term *Tamana*, was a popular place name for the Proto-Saharans, as they expanded out of the nuclear Proto-Saharan region, to signify a colonial city or trade center established among hostile alien tribes.

The Proto-Saharans also had their own writing system. This writing system was used by the Dravidians in the Indus Valley, the Manding in the Western Sahara, and the early Egyptians (see Illustration 1).

The ancient Proto-Saharan script was a logo-syllabic system. The words used to write this script were monosyllabic.

This writing was engraved on rocks, or a stylus was used to engrave on wet clay. This view is supported by the fact that the term for writing in Dravidian and Sumerian often has the long *-uu*, attached to various initial consonants usually /l/, /r/ or /d/. For example, writing in Sumerian was *Ru* and *Shu*, Elamite: *Talu*, and Dravidian: *Carru*. These terms agree with the Manding terms for excavate or hollow out: *du*, *do*, *kulu*, *tura*, etc. This shows that the Proto-Saharan term for writing denoted the creation of impressions on wet clay or hard rock. The Sumerian term for carving was *du*.

A comparative study of the Proto-Saharan languages (PS), gives us a very clear indication of their cultural traits, at the time of separation. Suzanne Romaine (1982), makes a good case for the inseparability of the linguistic area of research and that of socio-cultural research and the synchronic with the diachronic historical areas. This use of linguistic data to highlight the cultural history of related groups of speakers, was also supported by Labov (1969), who suggested that people having similar socio-cultural traits, would also be linguistically similar. As will soon be illustrated in this paper, this theory is supported by the analogy between the Dravidian, Manding and Sumerian languages.

It is interesting to note that although the Dravidians, Manding and Sumerians live in varying topography and climate, and in self-supporting semi-isolated regions they used the same terms to denote the earliest elements of civilization. Terms which show little phonological divergence. Moreover, these terms are mutually intelligible. This shows that the speakers of these languages came from a common ancestral language: *Bafsudraalam* (Winters 1985).

The early contact between the Dravidians, Manding and Sumerians in the Proto-Sahara led to great resemblances in the area of the cultural lexicon. This is particularly evident in the affinity between culture terms referring to the proto-civilization of the speakers of these languages. These noun categories show

the traditional sedentary culture of the Proto-Sahara. The sedentary lifestyle of the Proto-Saharans emphasises the role of culture as a determinant of linguistic structure and vocabulary.

An examination of the Proto-Saharan languages illustrates that the speakers of these languages lived in cities PS **uru*, and had chiefs PS **sar*. In addition to living in cities the Proto-Saharans had built extensive roads called PS **sila* (Fig.4).

The PS term for people or humanity was PS **oku*. The mother of the family was called PS **amma* or **ma*. and the father was called PS **pa* The children both boys and girls were usually referred to as PS **de/di/du*. They lived in houses called PS *-u/*lu (Fig.1).

The Proto-Saharans were both farmers and sheep herders PS **kari* 'sheep'. The word to cultivate was PS **be*. They used the hoe to cultivate their land PS **pari*. In addition the Proto-Saharans kept dogs PS **ur-* (Fig.2).

The Proto-Saharans used the suffix PS *-ta to indicate a place habitation. Cultivation was called PS **ga(n)*; cultivatable barren land near water was referred to as PS **de/i(n)* (Fig.2).

The Proto-Saharans were great sailors. They used celestial navigation to make long voyages. The Proto-Saharans also used boats called PS **kalam* (Fig.4).

Hunting was an important aspect of Proto-Saharan life. As a result the bow and arrow was a popular weapon, e.g., arrow PS **kaka*.

Many of the long distance voyages made by the Proto-Saharans were made in search of precious metals. The Proto-Dravidians dominated trade in lapis lazuli for hundreds of years. As a result they were familiar with mining. They therefore share the term for digging: Dravidian *tulai*, Manding *du*, *tyolo*, and Sumerian *dul*, *tul*,: PS **tul*.

These people probably knew about blacksmithy e.g., Tamil *irumbu*, Telugu *inamu*, Manding *numu*, *umu* 'forge'. These Proto-Saharans were familiar with many metals including copper: Dravidian *uruttiran*, Sumerian *urudu*, and Manding *kura*, *kuta*: - PS **urut*; gold: Dravidian *kaani*, *Kaanam*, Sumerian *Gush-kin*, and Manding *saani*: PS **aani*; and steel: Dravidian *alavu*, *urukku*, Elamite *ufat* and Manding *tuufa* PS **ufa*.

Fig.1 Kinship Terms

	Man	Woman	Person	Mother	Father
Dravidian	*al*	*manuci, asa*	*uk*	*amma*	*appan*
Sumerian	*tin, mu, lu*	*manus*	*uku*	*amma*	*pap*
Manding	*tye, moko*	*musa, musu*	*moko*	*ma*	*pa*

Fig.2 Agricultural Terms

	grain	cotton	rice	land of cultivation
Dravidian		*pani, panchi*	*arisi, uri, cooru*	*kalan*
Sumerian	*se*			*ga(n)*
Manding	*se*	*fani, fan-de*	*maro*	*ga*

	granery	hoe	fertilizer, Manure
Dravidian	*kulukkai*	*para, parai*	*eru, eruvu*
Sumerian	*kur*	*buru, bur* 'to up root'	
Manding	*Kulu-kulu*	*para*	*sara*

Fig.3 Domesticated Animals

	dog	horse	cattle, cow	sheep
Dravidian	*ori*	*pari, iyuli*	*naku*	*kuri, korri*
Sumerian	*ur*	*paru,* 'mule'	*gud*	*zar, sar*
Manding	*wuru*	*bari, wolo*	*gunga, kongo*	*sara*

Fig.4 Terms of Civilizing Elements

	arrow	city	house	writing	road	boat
Dravidian	*kakam*	*ruru*	*lon*	*carru*	*calai*	*kalam*
Sumerian	*kak*	*ur, bar*	*mu, u*	*Ru, sar*	*sila*	*kalam*
Manding	*kala*	*furu*	*lu, nu*	*sebe*	*sila*	*kulu*

Fig.5 Terms denoting Social Class

	chief	high officials	male	lord
Dravidian	*Ca, Cira*	*gasa(n)*	*kenton*	*mannan*
Sumerian	*Sar*	*gana*	*gi*	*manus*
Manding	*Sa*	*gana*	*ke*	*mansa*

Fig.6 Geographical Terms

	mud	mountain	hole, cavity	deluge
Dravidian	*tur*	*kunru*	*tulai*	*amaru*
Sumerian	*titu*	*kur*	*dul, tul*	*maari*
Manding	*putu*	*kuru*	*du, tyolo*	*mara* 'zone of pond'

The archaeological and linguistic evidence makes it clear that the Dravidian, Manding and Sumerian languages diverged from a common ancestral speech community which lived in the Proto-Sahara, and that at the time of separation these people had achieved a high level of civilization. The cultural and ethnic affinities of the Proto-Saharans encouraged the development of well organized trade relations between these groups in Africa and Asia. From the 4th to the 3rd millennium BC an extensive trade net-work connected the Proto-Saharans from middle Africa to the Indus Valley. This view is supported by the vessels from IVBI workshop at Tepe Yahya. These vessels have a uniform shape and design. Vessels sharing this style are distributed from Egypt to Soviet Uzbekistan and the Indus Valley. The discovery of intercultural style vessels from middle Africa, Sumer and the Indus Valley suggest a shared ideological identity among the people that is supported by the linguistic data found in this paper.

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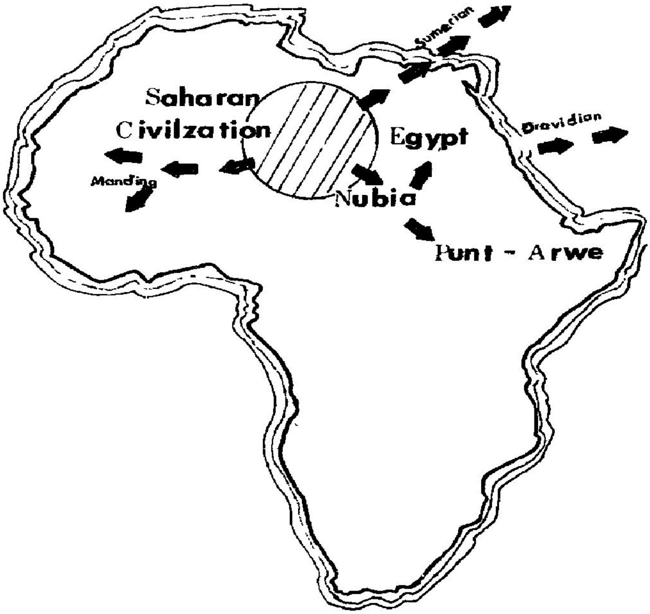
MAP -1

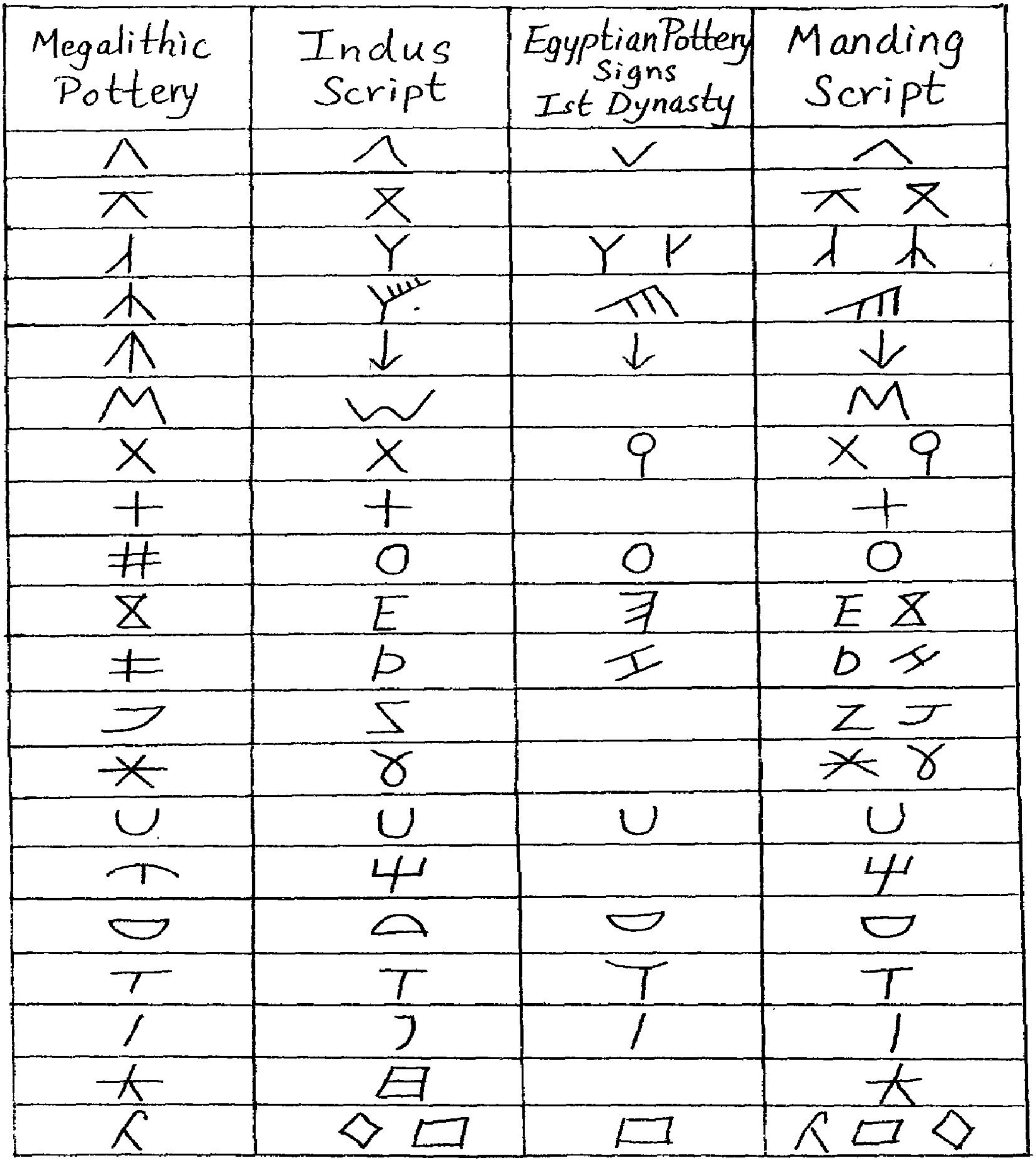
African Empires



MAP - 2

ANCIENT AFRICAN WATER COURSES

ILLUSTRATION - 1



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MARITIME TRADE OF THE PORTUGUESE WITH NORTHERN WEST COAST IN THE 17TH CENTURY A.D.

K.S. Mathew.

Some of Shivaji's contemporaries described him as a "mountain rat" who constructed forts in the various parts of the Deccan, while others like the Portuguese historians pictured him as just a "rebel" who raised the banner of revolt against the ruler of Bijapur. However, as a "mountain rat" he was a threat to the English, since he could prevent the flow of commodities from the hinterland to the coastal regions of Western India where they opened their commercial establishments. Vigilant Portuguese officials who watched doggedly the developments in the Western coast of the subcontinent reported that Shivaji was a serious challenge to the supremacy over the Indian ocean and the adjacent areas claimed by them. They realised that the ambition cherished by them to accumulate capital through trade was going to be jeopardized if Shivaji were to be permitted to develop his maritime enterprise. He on the other hand, was convinced of the fact that the financial demands of his newly carved out kingdom could not be met unless he too had a share in the sea-borne trade and had a strong navy to guard the ports on the western coast which were the havens of traders from far and wide. The daring attempts made by the Portuguese, the Dutch, the English and the French to monpolize the maritime trade provoked Shivaji to rise to the occasion by entering on a well-organised maritime enterprise. The Portuguese for over a century and a half claimed the supremacy over the Indian Ocean and therefore it was primarily with them that Shivaji had to cross swords when he commenced the attempts directed to this goal. It is proposed to highlight some of the aspects of this endeavour on the part of Shivaji and a few contemporary sources are consulted in the preparation of this paper.

The Portuguese from the very outset, intent on establishing a tight monopoly on the trade with India, demanded preferential treatment from the rulers of the coastal regions and insisted on preventing other merchants from having their establishments in the port-towns of the subcontinent. They were also keen on forestalling the possible commercial contacts of the Christian Europe which too was interested in purchasing the much-coveted oriental commodities directly from the sources eliminating the Muslim merchants who held monopoly in the trade in spices and other items of the Orient.With this end in view they obtained a number of Papal Bulls that entitled them to have

undisturbed and undisputed possession of the areas "discovered" and conquered by them.[1] Right in the first decade of the sixteenth century the King of Portugal assumed the title that presumably laid the juridical claim for the possession of the Indian Ocean, the navigation therein and the trade thereof.[2] The avowed aims of evangelization reinforced their claims for exclusive rights of the maritime trade and buttressed the arguments for a *Mare Clausum* as far as the Indian Ocean was concerned. The Papal Bulls were so construed as to exclude even the non-Christians, having nothing under the purview of the Roman Pontiff, from laying the claim to the free movement in the Indian Ocean and for contacts with the coastal regions even though they might be holding sway in those particular areas.

The Portuguese, who reached India under the legal presumption of finding a political vacuum and taking undisturbed possession of the same, had, paradoxically enough, to have recourse to the force of arms and diplomatic manoeuvres to bring the Indian merchants and Kings under their maritime supremacy. The rulers of Cochin,[3] Tanur,[4] Cannanore,[5] Calicut,[6] Canara (Biker 1881 I: 301)(Ikeri), Bijapur (Biker 1881 I: 181-82, IV: 81), Ahmednagar[7] Gujarat (Biker 1881: I: 63) and the Emperors like Akbar the Great[8] and Jahangir[9] obtained permission from the Portuguese authorities to set sail or send their commodities through the Indian Ocean to any part of the world, without fear of being captured by the Portuguese seamen. The Indian navigators, the "Indian pirates", to use the expression of the Portuguese, had to purchase permits or *cartazes* and abide by the instructions laid down, if they wanted to move in the regions of the Indian Ocean. This state of affairs continued unabated for decades together and the European powers, equally interested in the lucrative trade in spices, could not stand to the demands of the Portuguese monopoly, especially after the fusion of Portugal under the Spanish crown in 1580. Presumably the wave of Protestant revolution that was rampant in the Low Countries and the inveterate enmity towards the Spanish throne prompted the Dutch to call the relevance of the Papal Bulls in question and flout the Portuguese supremacy by capturing the Portuguese galleon *Santa Catharina* in the Straits of Malacca in 1602, which was loaded with valuable cargo. The proceeds of the sale of items contained in the galleon were shared among the partners of the Vereenige Oost-Indische Compagnie (VOC) which was established in the same year. The step taken by the Dutch Commander Heemskerch in capturing the ship was justified by the theorist Hugo Grotius through his work *De Jure Praedae* written in 1604-5 and chapter XII of the same was published in 1608 under the title *Mare Liberum* attacking the monopolist attitude of the Portuguese.

The British too, going a step ahead of the "merchant adventurers" or the Levant Company, established the English East India Company by a royal charter in 1600 with a view to starting trade in the Asian commodities. They too established their foothold in the port-towns of India and began trade in various merchandises. The English mind was not ready to accept the arguments propounded by the Portuguese and the Dutch as the final verdict

on the subject and jeopardize their commercial interests. William Welwod published the booklet *An Abridgement of all the Sea-Lawes* in 1613 providing the theoretical background for the British claims for the dominion of the sea.[10] John Selden defended the right of the British Crown to appropriate the sea as well as land and refuted the ideas expressed in *Mare Liberum*. His tractate entitled *Mare Clausum* was written in 1617 or 1618 and attacked the Dutch position. Seraphim de Freitas, a Portuguese writer and Professor at the University of Valladolid, asserted and reaffirmed the rights of the Portuguese and brought out a number of arguments refuting those of Grotius and other theorists. This book entitled *De Justo Imperio Lusitanorum Asiatico*[11] was published in 1623. Thus, both the Portuguese and the Dutch claims for the dominion of the Indian Ocean and the adjacent areas were challenged by the interested parties and the interested persons went on trading with the Indian port-towns.

It was against this background that Shivaji, who realised the importance of the coastal regions of India and the necessity of revenues to be collected from the port-towns as well as maritime trade, started acquiring the territories on the west coast of India, and began building up a navy which would serve the mercantile and defensive aims. The Dutch as well as the English presence on the coastal line of western India proved the futility and vulnerability of the Portuguese claims to a man like Shivaji who was bent on carving out a kingdom and establishing it on strong foundations. He too began to challenge the Portuguese supremacy. The establishment of the French contacts under the auspices of *Compagnie des Indes Orientales* founded in 1664 at the instigation of Colbert and the patronage of the King, might have also spurred the enthusiasm of Shivaji in breaking the monopoly of the Portuguese and making headway in the naval attempts.

The coastal areas of the Konkan having a host of creeks provided naturally secure shelter for ships and so attracted merchants, pirates and rulers from all over the world, so much so that there were constant fights for the possession of the various ports and trading centres of this region. Though some of his contemporaries depicted Shivaji as a "mountain rat" (Fryer 1967:59) confining himself to hilly areas of the hinterland, he understood the necessity of having a hold on the coast as well as the coastal towns for the sake of the security of the kingdom which he had begun carving out as well as for the improvement of its finances and took effective steps in this regard. The entire coastal area from the upper Chaul (*ER* I: 3 7 0) to Dabhol was under Shivaji already by 1659 (*ER* I:3,5). The important port-town of Rajapore was also occupied by him around this period (*ER* I:14). Similaraly, some of the regions in the West Coast famous for timber, namely, Kalyan, Bhivandi, Vengurla and Panvel were in his possession (Fryer 1967:68) and so he was in a better position to launch his maritime enterprise. He extended his influence to the northern parts of the West Coast in the direction of Surat as well and acquired a number of ports which commanded the sea-borne trade of India.[12] About nine important port-towns of Deccan were already acquired by him by

1664 (*ER* I:97) and in all, fourteen port-towns of brisk trade on the West Coast of India had been under the command of Shivaji by 1665. Karwar was brought under Shivaji before 1672 (Fryer 1967: I, 152). Afterwards he occupied Khanderi (Undry Candry) and began fortifying it with a view to making it a good trading centre.[13] The European powers feared that Shivaji would become master of the whole of the West Coast and without his friendship it would be impossible to conduct trade. The British agents in India had therefore apprised their authorities of the situation and wanted to have a friendly relation with him for continuing their trade with India unhampered (*ER* I:47,92). They wrote that without the timber from Kalyan and Bhivandi which were under Shivaji, it would be difficult for the British to go on with the sea-borne trade and preferred this timber to that of Baliapattam and Calicut on the Malabar coast (*ER* I:142, 145,150).

The coastal regions acquired by Shivaji, besides being important for the activities connected with shipping, played a vital role as the centres of production of several commodities as well as maritime outlets of the areas of production in the interior parts, as it shall be gleaned from the ensuing discussion of the composition of commodities involved in the trade. It is therefore, not only the strategic importance that impelled Shivaji to acquire the coastal regions, but also the commercial potentialities of the region as well, even though a more detailed study would be required to affirm the relative importance and establish the priority of interests in this matter.

As soon as Shivaji established strong footholds in the coastal Western India, and realised the necessity of developing a navy both for defence and for the sea-borne trade, he started getting ships built in the ports thereof.[14] More than twenty ships were constructed in Bhivandi, Kalyan and Panvel by 1659 (*Assentos* IV: 6). He went ahead in the matter of ship-building and in 1664 the construction of more than fifty vessels was going on in upper Chaul and six of them were ready to be launched by the month of August in the same year (*Assentos* IV:141). By 1670 Shivaji had 160 vessels of all types that were moving in the Indian waters (*ER* I:180). As the timber in Kalyan was much superior to that of the other parts of India, ship-building there made great strides. Six ships were constructed in Kalyan in 1672 (*ER* I:231-32, 235). Some of the ships had a tonnage of 250 (*ER* I:146). Forty small vessels were constructed for Shivaji around 1675 (*ER* II: 41). Thus from time to time he got new vessels built in tune with the demands of the enterprise he had initiated. The number of the vessels must have been above twohundred at least, because an eye-witness of the English East India Company counted 160 vessels in 1670 and it can be reasonably concluded that this number could not be exhaustive, since at least a few vessels for some reason or other should have been in the ports. Moreover, it is very clearly testified by the English observers that after his coronation, Shivaji concentrated his attention with greater interest on trade (*ER* II:11), and that too, presumably on sea-borne trade. Therefore by the time his reign was coming to an end, he might have had more than 200 vessels.

Since Shivaji was interested in developing a navy to challenge the maritime supremacy of the Europeans as well as that of the Siddis, he employed all the possible means to have personnel who were well-acquainted and experts in the field. A number of Portuguese renegades had entered into the services of the Indian rulers in various capacities and there were a host of them in the Maratha navy too. It was calculated that there were about 340 Portuguese soldiers and more than 400 Indian Christians in the naval service under Shivaji around 1662.[15] This number was in the establishments in Kalyan and Bhivandi. There could have been such persons in the upper Chaul where too ships were built. This could be true of Rajapore also. These two ports were in the vicinity of Chaul and the Portuguese soldiers could easily find jobs in such places, since they were badly paid by the Portuguese government and were eagerly sought after by the Indian rulers.

Though Shivaji had aims of defending the country against the Siddis and the Europeans by building up a strong navy, the commercial interest that might have guided him in developing a merchant marine is not sufficiently highlighted. It is to be doubted if the underlying reason for establishing the navy itself was ultimately motivated by commercial interests or defensive purposes. The existence of a number of Maratha vessels engaged in maritime trade and commerce may corroborate this conclusion. A Good many vessels were used in the transport of salt from the salt-producing areas of the northern part of the West Coast of India. About sixty to seventy vessels belonging to Shivaji were reportedly involved in the transportation of salt in 1670 (*ER* I: 167). Apart from these, there were a number of trading vessels of Maharashtra that were found in the Deccan (*ER* I:276, 293). A host of them were engaged in the coastal trade. Considerably big ones suited to long hauls were used in exporting commodities to Aden. Muscat, Bussorah, Mocha and other parts of the Persian Gulf as it may be evident from the details regarding the various directions of the overseas trade of Maharashtra under Shivaji. It was concluded that more than three vessels each from eight to nine ports of the Deccan loaded with commodities were sent every year to the above mentioned trade centres (*ER* I:97). Four or five masted vessels of Shivaji were found at Rajapore for the trade with Muscat and other places of the Middle East around 1674 (*ER* II:11).

As he had intensified his commercial operations after his coronation (*ER* II:11). it may be concluded that more vessels were employed in this sort of trade. As he had various directions of trade a large number of merchant ships were needed for the purpose.

The maritime trade of Maharashtra under Shivaji had various directions or branches which, for the sake of clarity, could be grouped into internal trade feeding the maritime branch, the Indian coastal trade and finally the International trade. The Portuguese, the English, the Dutch and the French[16] who had established their factories on the West Coast of India depended greatly on the supply of commodities from the various parts of Maharashtra. The foreigners were presumably

not allowed to go to the interior parts of the country to sell what they had brought with them nor to purchase what they wanted to export from India. That part of the trade was left in the hands of the local merchants and brokers. The foreigners were permitted to purchase the local commodities and sell their goods at the port only. Thus, despite the attempts of the English to go to the interior parts of Maharashtra from their factories, they were clearly told that this transaction had to be done only at the port and that too after paying the stipulated customs there. The local merchants, however, were permitted to take the commodities to any part of the kingdom after paying the inland taxes (*ER* I:349). These measures were adopted to protect the local merchants and brokers whom the foreingers were trying to replace. This also helped in collecting the fixed taxes and customs duties which would enrich the royal exchequer. In other words, Shivaji saw to it that the internal trade feeding the maritime one was kept undisturbed. However, the information regarding this branch of trade is comparatively scanty as far as the foreign sources are concerned. The marts of Raybag, Hautenee (?), Kolhapur and so on supplied Deccan cloths, cardamoms and other commodities to the English at the Rajapore factory (*ER* II:108). However, the Maratha merchants were given the right to deal with the commodities in the interior.

The Indian coastal trade was run by the ships under Shivaji as far as Maharashtra was concerned. Salt-fleets of Shivaji transported salt from the northern part of western India to some ports of Maharashtra. Karanja and Trombay were the places from where these fleets took salt (*ER* I:146). In 1670 about sixty to seventy ships belonging to Shivaji, reportedly carrying salt, were found near Bombay (*ER* I:167). The appearance of salt fleets seems to have seen a regular feature (*ER* I:206,293) and they visited mostly the ports near Bombay and Bassein. Six vessels loaded with salt were carrying salt to Dabhul in 1677 (*ER* II:154-55).

The ships of Shivaji carried various types of commodities to Bombay and other ports on the West Coast. Thus in 1671 the vessels carried textiles worth Rs.6,000 to the English officials at Bombay (*ER* I: 209). Some of the ships belonging to Shivaji trans-shipped timber to the British factory at Bombay for their use in the shipyard (*ER* I:207). It seems that some of them visited Mormogaum and other places of Goa regularly to carry commodities of various kinds especially rice from Canara (Pissurlencar 1975:16). Thus in 1673 four of his ships were found in Goa (*ER* I:311). Always there were vessels belonging to Shivaji or his subjects moving from port to port especially from Karanja to Goa carrying salt, drugs of all sorts and victuals and even the Portuguese exempted these ships involved in coastal trade from taking *(cartazes)* (Biker 1881: IV:136:38). These items were taken to various ports of Maharashtra from the port of Goa.

The external trade or international trade conducted by Maharashtra under Shivaji was another important activity of the maritime enterprise of Shivaji. Vessels belonging to Shivaji as well as to private persons were plying between the West Coast of India and a number of trade centres

of Arabia and Persia. It was reported by the keen observers of the British East India Company that every year more than three vessels each from the eight to nine ports of the Deccan were sent by Shivaji to Persia, Bussorah and Mocha around 1664 and some of the nimble ones were of 150 tons and above (*ER* I:97).

Besides these places of the Middle East, Aden and Muscat also were frequented by Shivaji's vessels. Several of his ships were reported to be returning from Mocha, Aden, Muscat, Persia and Bussorah in the year 1668 (*ER* I:123). A junk of Shivaji on her way back from Aden was found in Bombay in 1669 (*ER* I:134). Since Shivaji had captured some of the ships of the Portuguese, they retaliated in 1669 by confiscating one of Shivaji that returned from the Gulf of Persia (*ER* I:135). The Portuguese agreed to issue (*cartazes*) to ships belonging to him or to his subjects as they had done in the case of the subjects and vassals of the Mughal Emporers (Biker 1881: IV:136-38). Four or five ships of Shivaji, equipped with masts and used in the trade with Muscat, were found at Rajapore in 1674 (*ER* II:7). This points to the fact that Shivaji had a well-developed international maritime trade.

The private merchants of Maharashtra too took part in the internal as well as external trade. Some of them were involved in trans-shipping salt from the North to the various parts of Maharashtra. Thus, a certain merchant by name Narang Siny, resident of Maharashtra, had six vessels laden with salt which were to be sent to some parts of Maharashtra. He had purchased these six ships from Shivaji and he wanted to obtain some special protection from the English against the Siddis since it was possible that the latter, the inveterate enemies of Shivaji, might attack these ships that once belonged to him (*ER* II:152-53). Several subjects of Shivaji used to take commodities to Bombay to trade with the English and Shivaji himself had asked the English East India Company to extend special protection to them and to treat them amicably (*ER* II:286-87). The Portuguese also permitted the merchants of Maharashtra to take commodities from Karanja and send these ships to other parts of Maharashtra without the necessity of purchasing *cartazes* from them (Biker 1881: IV: 136-38). The information available on this subject is rather scanty.

The merchants of Maharashtra had their share in the international branch of trade too. They had commercial relations with Muscat and other centres of trade in the Persian Gulf and Red Sea areas. Thus a merchant, Shivaji Braminy by name, had a vessel that was loaded with commodities from Muscat and reached Bombay on his way back to one of the port-towns of Maharashtra, probably Rajapore (*ER* I:281-82). Though specific references to the private merchants engaged in international trade are few, there are clear indications of Shivaji's subjects being involved in this. The terms and conditions of the treaty between Shivaji and the Portuguese refer to the external trade conducted by the private merchants of Maharashtra and the Portuguese agreed to issue *cartazes* to them (Biker 1881: IV 136-38). Thus it becomes evident that the merchants under Shivaji were to enter on both coastal and international trade and some of them owned ships of their

own and used to collect passes both from the English and the Portuguese.

Large variety of commodities constituted exports and imports of the maritime trade of Maharashtra. Pepper was one of the items available in some parts of the kingdom of Shivaji, that was exported to Europe and various parts of the Middle East that served as entrepots of the Mediterranean merchants. Rajapore had a great supply of pepper. According to an estimate of 1665 about 1000 tonnes or 3000 *candis* of pepper could be collected from here every year.[17] It could be because of the abundance of pepper that the English had established their factory there and continued trade despite the constant menace from Shivaji.[18] The *bania* merchants procured pepper from Rajapore in 1673 for the English (*ER* I:277, 279). It was reported by the English in the following year that the pepper at Rajapore had become rather expensive and therefore they would purchase other commodities from there (*ER* II:2). The ships that were sent from the ports of Deccan to Aden, Bassora, Muscat, Mocha and other parts of the Middle East carried presumably pepper in large quantities, which was in great demand in those regions and this helped Shivaji and his subjects to purchase the commodities needed for Maharashtra.

Textiles of various sorts constituted another item of export from Maharashtra. Shivaji sent clothes of all sorts worth Rs.6,000/- to the English at Bombay in 1671 (*ER* I:209). Coarse cloth was available in Rajapore and the bania merchants procured it for the English in 1673 (*ER* I:277, 279). Silk textiles were produced in Chaul and a number of weavers were settled in upper Chaul which was directly under Shivaji (*ER* II:8). The English had persuaded the weavers from the territory of Shivaji to go and settle down in Bombay (*ER* II:111). The weavers of Bhivandi in Maharashtra, though unwilling to go over to Bombay, agreed to supply the necessary volume of textiles to the English there (*ER* II:115). Good cotton yarn was available at Raybag and other places in Maharashtra and the British collected it from these areas (*ER* II:13). The Deccan clothes of Rajapore were available at a rate cheaper than that at Surat and therefore the English were enthusiastic in their attempts to establish their factory there (*ER* II:108).

Another important item of export from Maharashtra was coconut. Shivaji's territory had coconuts for export and the British collected them in large numbers from there (*ER* II:2). As Shivaji had no cash to pay for the commodities he purchased from the English, he supplied coconuts to them (*ER* II:59). Once he delivered coconuts as payment of the 5000 *pagodas* due to them (*ER* II:56). The English took a good many coconuts from Rajapore in 1676 (*ER* :90). Shivaji delivered a sizeable quantity of coconuts to the English in 1677 (*ER* II:112). His officials in Rajapore supplied also rotten coconuts to the English and he was accused of the same (ER II:190). The port of Rajapore supplied some 500,000 coconuts to the English at another time (*ER* II:206).

Betelnut too formed an important item of export from Maharashtra especially from Chaul (*ER* II:2). The English East India Company purchased a great volume of betelnuts from Rajapore in 1676 (*ER* II:90).

Narang Sunay procured 100 Maunds of betelnut for the English in 1677 (*ER* II:112). Shivaji supplied betelnuts to the English to pay off the dues he had with them (*ER* II:152). The English, however, complained of the bad quality of the item since it was rather rotten (*ER* II:183). In 1679 about 292 *candis* of betelnuts were supplied to the English at Rajapore by the men of Shivaji (*ER* II:206). His officials delivered 100 *candis* of betelnut from Chaul to the English in 1679-80 (*ER* II:291,297,309).

Timber from Maharashtra was something which was indispensable to the English, and that from Kalyan and Bhivandi was eagerly sought after by them and on account of this they wanted to keep good relations with Shivaji. This was absolutely necessary for building ships in Bombay (*ER* I:145,148,149,150). The dependence of the English on the timber available in the land of Shivaji made the latter to take it for granted that his salt fleet would not have to face the problem of security from the English (*ER* I:206). Since the Portuguese created serious problems to the English on account of their hold on Tana Pass, the English had to get timber transported in the ships of Shivaji (*ER* I:207). The cost of timber from Kalyan and Bhivandi soared up owing to the excessive customs duties collected by the Portuguese in Bassein for the Tana Pass (*ER* II:110). Therefore at times Shivaji's men carried the timber in their own ships and delivered it to the English.

There were a number of other items that were exported from Maharashtra, though not in great quantity, such as saltpeter, cardamom, cowrys, gumlac and turmeric. Rajapore in 1655 had a supply of about 1,000 *candis* of saltpeter.[19] Upper Chaul also was one of the places from where saltpeter was exported (*ER* I:125). The region of Raybag too exported saltpeter (*ER* II:13). Rajapore exported more than 300 quintals of cardamom per year around 1655 (*ER* II:325). The cardamom available here was cheaper than the one in Surat as reported by the officials of the East India Company (*ER* II:108). Similarly, Rajapore had a great quantity of gumlac (sealing wax?) for export (*ER* II:325). The Bania merchants procured it from Rajapore for the British (*ER* II:277, 279). Turmeric too was exported from here and more than 200 maunds of it were available every year at Rajapore (*ER* II:325). Thus various types of commodities were exported from Maharashtra. The ships going from here to the port-towns of the Middle East took almost all these varieties for procuring commodities needed in this region under Shivaji.

Mostly in exchange for the commodities referred to above, merchandises of several kinds were imported into Maharashtra. Copper seems to have occupied the pride of place among the imports. Great quantity of copper was imported into Rajapore, since Shivaji needed copper-pieces in plenty (*ER* I:315). It had a very speedy sale in the territory under him, and fetched four *pagodas* and a half per maund (*ER* II:33, 43). As it was in great demand in India and was a commodity for which good bargain could be made, the British insisted that Shivaji should pay in cash and no payment in the form of commodities was accepted for copper (*ER* II:59,60). They demanded also ready cash, but not in credit. Tin and lead too were imported regularly into Maharashtra. Large quantity

of tin was imported into Rajapore (*ER* II:325). Fifty *candis* of tin were found there in 1675 and a maund of tin fetched 3.25 One hundred *candis* of lead were found in Rajapore in 1675 and a maund of lead cost Rs. four (*ER* II:43). Coral, quicksilver and vermillion were some of the other items that were imported. Coral was brought to Rajapore and Bombay for taking it to various parts of Maharashtra (*ER* I:147; II:315). Quicksilver imported to Rajapore was available at 20 *pagodas a mound* while vermillion at 16 pagodas (*ER* II:43). The trade with the Middle East conducted by Shivaji helped him, among other things, to procure horses for his country. Though the European sources do not give greater details of the import of horses, there is some scattered information on this subject. The vessel returning from Muscat had brought sixty horses to Rajapore in 1674/5 (*ER* II:33). The frequent commercial contacts with the Middle East and the growing number of cavalry in Maharashtra help one to conclude that horses were imported to this region in large numbers during the time of Shivaji. Many of the local rulers in India collected arms and ammunition from the Europeans. So too Shivaji got big canons especially brass guns, iron shots and so on from the English (*ER* II:59). The British decided to supply him ten big guns because of the persistent requests made by him (*ER* II:19). Thus various items constituted the bulk of commodities exported from, and imported into, Maharashtra during the time of Shivaji.

It seems that the principal medium of exchange consisted not in cash, but in commodities as monetisation had not made great strides at that time. According to the agreement signed on April 6, 1674 Shivaji was to give 10,000 *pagodas* to the English to indemnify the loss they suffered in Rajapore (*ER* I:348). He preferred to pay the whole amount by way of merchandise rather than cash (*ER* I:355). The English East India Company showed its willingness to purchase things worth 5,000 *pagodas* and a part of the rest was to be adjusted against the customs duties to be paid to Shivaji (*ER* I:1). Later his insistence on the delivery of goods worth the entire amount due to them was to be accepted by the Company (*ER* II:59). Even when Shivaji wanted to buy copper, iron shots and brass gun he offered only commodities in exchange and the British however insisted on cash payments. The latter agreed to give everything in exchange for commodities except copper. At last they accepted merchandise for merchandise purchased from them (*ER* II:59,60). In certain cases Shivaji issued bills of exchange for the commodities bought from them. Thus in 1675 he drew a bill of exchange on his correspondent in Golconda for the payment of the various merchandise he received from the English East India Company (*ER* II:79). Cash too was used in transaction, but exchange of commodities seems to have been the chief medium.

If Shivaji's relations, whether friendly or unfriendly, with the various powers like the Siddis, the Portuguese, the English, the Dutch and the French are evaluated against the background of the maritime enterprise, especially trade and commerce, probably more meaningful explanation could be offered. The Siddis who were a threat to all Oceanic endeavours of the others could not be tolerated by

Shivaji. If he were satisfied with the activities based on land and territorial expansion only, and had no interest in maritime trade with which he could amass money and matierials needed for his newly carved out state, *presumably Shivaji would* not have had to cross swords so violently with the Siddis. The acquisition of coastal regions in western India and the various port-towns by Shivaji *again bespeaks the commer*cial motive behind his endeavours. The Portuguese who imposed 'a strict monopoly of maritime trade and insisted *on* other powers irrespective of *their nationality to take their* passes *(cartazes)* questioned the right of Shivaji, a local ruler to use the maritime outlet. The plans of developing a cavalry much needed *for carving out a kingdom in the* peculiar geographical conditions of Maharashtra would have been jeopardized if horses could not be imported into Maharashtra from the port-towns of Arabia and Persia. The purchase of horses could be effected chiefly by the supply of Indian commodities in demand in those regions.

Similarly, copper and other elements needed for arms and ammunition, as well as salt and commodities for local consumption also were to be imported into Maharashtra. The Portuguese presumption of maritime supremacy could not be easily accepted by Shivaji. He fought against them several times on different grounds. The trade in timber and the *obstruction* placed by *the* Porguguse in the passes near Thana and Kalyan *(ER* I:231) aggravated his animosity towards them. Though occasionally he took passes *(c a r t a - zes)*from them, he challenged their supremacy often, especially because he was aware of the decadence of the Portuguese power and the plight of their trade. He knew that the 'evil government was destroying the trade and the *padres* and *fidalgos* were eating up the revenue' *(ER* I:318). The condition of the Dutch in India too was not different from that of the Portuguese. Therefore Shivaji ventured to make some headway in the *matter* of maritime trade and enrich his coffers. Except the Portuguese, no other power had claimed an absolute supremacy over the Indian Ocean and so his *conflict* with the Portuguese was something naturally to be expected. This is *not, however,* to deny the fact that he had remonstrated against the means *employed* by the Portuguese in converting the Hindus to Christianity *(ER* II: 74) and refusal or the delaying tactics of the Portuguese in paying *Chauth* *(ER* I:219,224; II:6).

It may be concluded that Maharashtra under Shivaji had a rather well-developed network of maritime trade which brought a sizeable income to the state. However, there is *no* evidence to state that there was any attempt on the part of Shivaji to impose state-monopoly. As seen above, the private merchants too were involved in the maritime trade of Maharashtra. Thus it *may be* surmised that it was not a state controlled enterprise unlike the case with the Portuguese trade. Further, it may be stated that the trade was not confined to just the coastal trade within India itself, but on the contrary, it was extended to the distant centres of trade in the Middle East. The growth and development of the coastal towns of Carwar, Vengurla, Chaul, Rajapore, Thana and so *on owed* a lot to the trade conducted in these

areas. The political turmoil brought about in Western India by the Portuguese, the English, the Dutch, the French, the Siddis and the Mughals was aggrevated by the attempts of Shivaji to claim his share in the proceeds of maritime trade. Thus, to a certain extent, the confused state of affairs in the 17th century coastal Western India was the creation of conflicting commercial interests and the principal factor in the confrontation between Shivaji and the Portugese could be traced to the maritime supremacy and monopoly of trade claimed by the latter.

NOTES

1. Archivo Nacional da Torre do Tombo (Hereafter ANTT), maco 7 de bullas, No.29; Gavetas, 17, maco 6, No 6; *Bullarium Patronatus Portugalliae Regum in Ecclosiis Africae, Asiae atque Oceaniae* tom 1, Lisbon, 1868, pp.31-34; 47-52.

2. "Senhor da Navegacao, Conquista e commercio de Ethiopia, Arabia, Persia e India". (Ref.Joao de Barros, *Decada* 1, part 11, Lisbon, 1777, 11-19.

3. Historical Archives of Goa (hereafter HAG) MSS.Codex no.1043 folio 63.

4. *Cartas de Affonso de Albuquerque* (hereafter *Cartas)* tom I. Lisbon, 1884, pp.21-23, 321.

5. ANTT. MSS.Nucleo Antigo No.891: *Cartas,* tom II. Lisbon, 1898, 401.

6. ANTT. MSS.Corpo Chronologico (hereafter CC), I-13-63.

7. HAG, MSS.Codex No. 1043, folios 59ff.

8. HAG.MSS. 1043, folio 50; Diogo do couto, *Decada* IX Lisbon, 1786. p.247.

9. HAG *Ibid.*

10. Another book came out in 1619 from the same author reiterating the ideas already expressed. Its title was: *De Dominio Maris Juribusque ad Dominium praecipue spectantibus Assertio brevis ac Methodica.* Grotius took up the challenge and wrote the reply to Welwod's attack though it was not published then and it was under the title *Defensio Capitis Ouinti Maris Liberi oppugnanti a Gulielmo Welwodo Juris Civilis Professore capitis* XXVII ejus Libri Scripti Anglica sermone cui *Titulum fecit Compendium Legum Maritimarum.* Ref. James Brown Scott ed. *The Freedom of the Seas,* New york, 1916 pp. viii-ix.

11. *De Justo Imperio Lusitanorum Asiatico (Do Justo Imperio Asiatico dos Portugueses,* published by the Conselho da Europa, Lisbon, 1983.

12. Khafi Khan "Muntakhabu- I-Lubab "In Elliot and Dowson (n.d.VII:271).

13. Panduronga S.S. Rissurlencar ed., *Assentos do Conselho do Estado,* vol. IV, Bastora, 1956, p.346 (hereafter *Assentos). ER* II: 199-200.

14. S.N.Sen speaking of the Maratha Navy acredits Shivaji with the epithet of the "Father of Maratha Navy". (Sen 1958:152).

15. Archivo Historico do Ultramar, Caixa da India No. 25. documentos avalsos: *Assentos* Vol. IV, P.6n.

16. With Shivaji's permission the French had started their factory in Rajapor by 1668. Ref. *ER* I:128.

17. Peter Mundy, *Travels*, ed., Richard Temple, Hakluyt Society Publication. Ref. *ER* II 325.

18. Once Shivaji had agreed to pay 10,000 *pagodas* as compensation for the plunder. Ref.*ER* I 268, II 1.

19. Peter Mundi, *op.cit.*, p. 325

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"COMPARATIVE LITERATURE: SOME THOUGHTS

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That the pursuit of Comparative Literature studies in this part of the country has bogged the researchers and other enthusiasts of the subject down into bookish argumentations and academic controversies often for self-aggrandisement, can hardly be denied. Taking a dispassionate stock of the situation, one can still be optimistic enough to consider it as an encouraging sign of growth of the discipline. Whatever be the difference of opinion amongst the researchers, everyone is agreed on that the study of Comparative Literature is a complex and controversial phenomenon. Why is it so? Does the complexity arise out of the content and scope of the study or out of the methods adopted for the study or merely out of the lack of means to identify persons genuinely interested in promoting the discipline as distinguished from those academically oriented to professional survival?

Such inconvenient questions are bound to arise when one attempts to assess the name and nature of Comparative Literature studies as practised in Tamil Nadu. The opinion that all sorts of things are said and done in the name of Comparative Literature in Tamil Nadu may not be viewed seriously because the whole discipline is in a state of infancy and it has a long way to go cutting deep into the Tamil soil and making its roots there. For that matter, any branch of learning whether it is of the East or the West has to make its beginning only the way the Comparative Literature research in Tamil Nadu has done so far.

Harry Levin once said, "Scholar or critic, teacher or student -- I would gladly give up any claim to such titles .... It so happens that I am one of those to whom the smell of chalk-dust has always acted as the most powerful of stimulants" (Levin 1972: 6). In respectful awareness of such words of Harry Levin, the statements, perhaps the broad-based generalisations of the above paragraphs are made and not out of pretence to any of those identities of a scholar, teacher or critic except for the last one i.e. the student. The stimulating chalk-dust of Comparative Literature studies and research could inspire any growing student of the discipline to think aloud and see for himself what the definition and scope of Comparative Literature are going to be in Tamil Nadu.

There are definitions and definitions of the term 'Comparative Literature' (See Remak 1971: 1-58) attempted by diverse scholars around the world, mostly of the Western hemisphere, chief of them being H.H. Remak, Rene Wellek, Rene Etiemble and Werner Friedrich and a few others.

The elaborate attempt at definition by the different schools of

comparatism, whether it be French or American or Russian, is bound to reveal the fact that Comparative Literature as a philosophy of letters is a discipline, developed and evolved out of a set-up characteristic of the circumstances of a native culture of dominant literary tendencies and not al all a finished product of cultural importation or exportation. Consequently the modalities of comparatistics have to be formulated mainly out of the native circumstances of the literature concerned.

Therefore, a dispassionate analysis of the established traditions of Tamil literature from the ancient times to the modern period should reveal that there has always been a tendency to make comparisons -- though simple comparisons they may be -- as part of the writer's desire to vent his sense of critical investigation. Such comparison-making awareness has had its own methodology which is evidenced by Paṉampāraṉār's *Ciṟappuppāyiram* 'Special Prelude' to *Tolkāppiyam*. According to Prof.N.Sethuraghunathan, the ancient Tamil classics like *Bhāratam, Rāmāyaṇam, Sīvakacintāmaṇi* and *Peruṅkatai* are allegorical compositions meant to promote the attainment of God-realisation in Man which convention inspired the recent writings of Śivaprakāsa Adigaḷār as in *Prabhuliṅga Līlai* and Sundaram Pillai as in *Maṉōṉmaṇiyam* where they use the technique of allegorising for the same objective of God-realisation. The comparableness of themes and techniques could so far be seen only in verse compositions. Prof.Sethuraghunathan maintains that in olden days there was ample scope for elevating the simple comparableness to the level of international comparativeness by involving in it an in-depth study of several literatures of varying cultures. But there were no facilities nor opportunities for individual pursuit. In the next place, there was not much conventional prose writing which is the most useful medium for expressing intellectually complex findings of comparisons of international literatures. Consequently the heterogeneity could not be infused into their homogeneous comparisons which were frequently, successfully and discreetly attempted from time to time by writers like Tirutakka Tēvar, Kambar, Parañjōti Muṉivar and Varantaruvār.

For example, in Tirutakka Tēvar's *Cīvakacintāmaṇi*, he presents a piece of description of a group of ploughmen and their infatuation to their lady-loves. The tillers go to the paddy fields in order to do weeding. Intertwined with the paddy crops are the herds of lotuses and water-lilies in full bloom. The tillers are already drunk and therefore they are unable to discriminate the faces of their lady-loves from the blossoms of the paddy fields. The water-lilies look like the sweet eyes of their sweet-hearts. With no mind to do weeding, they start singing:

Kaṇṇeṉak Kuvaḷaiyum Kaṭṭal ōmpiṉar
vaṇṇavāṉ mukameṉa maraiyiṉ uḷpukār
paṇṇeḻut tiyalpaṭap parappiyiṭṭaṉar
taṉvayal uḻavartam taṉmai iṉṉatē

(Cīvaka Cintāmaṇi-51)

Likewise the later poet Kambar employs the same thematic content and the romantic context of the poem in his *Rāmāyaṇam* where he says:

paṉkaḷvay milaṟṟum iṉcoṟkataiciyar
parantu niṉṟa
kaṅkaikaḷ mukam vāy okkum kaḷai-
yalar kalaiyilāmai
uṉkaḷvar kaṭai vāy meḷḷar kalaika-
ḷatu ulavi niṟpār
peṇkaḷ pāl vaitta ṅeyam pilaipparō
ciṟiyōr peṟṟal

(*Kambarāmāyaṇam* - 42)

The only difference in treatment of the theme by Tēvar and Kambar is that the last line of Kambar's verse contains the quintessence of the meaning of Tēvar's lines. Thus we see that the two writers of the 9th century and the 12th century A.D. respectively run parallel to each other. But whatever be the import of the beautiful blossoms of the paddy fields, they stand out as weeds corroding the fertility of the soil and hence they deserve to be removed. So thinks Parañjōti Munivar of the later period, who writes in the verses 23 and 24 of the *Tiruviḷayāḍarpurāṇam* that the ploughmen look down on the water-lilies as hostile to their eyes, the lotuses to the face, the hands and the legs and they should at any cost be removed. Familiar with the three kinds of the thematic treatment of the blossoming weeds, the poet Varantaruvār with his sense of comparative appreciation writes in his critical evaluation of his father's prelude to *Villi Bhāratam*, that the drunken maids go to the paddy fields for weeding and see their beautiful eyes and their pretty faces reflected in the waters of the crops and therefore they misperceive them as real water-lilies and lotuses and try to trample them down into the marshy fields. But when the waters get crystal-clear once again, those wholesome weeds reappear in reflection and the maids keep trampling them down on and on. When they leave the fields, they realise that it is only their reflection and not the actual weeds which they cannot feel on account of their drunkenness.

A similar tendency to make homogeneous comparisons within the confines of Tamil literature is found in the quite too recent scholarly writings of great Pandits like Prof. U.V.Swaminatha Iyer, a distinguished scholar-critic and editor of great many Tamil texts whose innumerable footnotes to different editions of Tamil classics testify very distinctly to his keen sense of comparative evaluation within the sources of Tamil literature and sometimes within the sources of Tamil and Sanskrit literatures. Prof. U.V.S. Iyer's ardent disciple and himself an erudite scholar Prof. S.Dhandapani Desikar in the same footsteps has carried on the torch of Tamil comparative scholarship in his writings like *Vaḷḷuvarum Kambarum, Kāppiyaṅgaḷil Tirukkuṟaḷ* and *Tirukkuṟal Uraikkaḷañjiyam (Pāyiraviyal)*. (Desikar, 1972, 1975 & 1981). It is needless to mention that besides these writers, there is a lot more who have written on such topics and subjects - not to make any more particular references. The same motivation for homogeneously comparative learning and scholarship has inspired many more academic exercises already adjudicated or being prepared for adjudication for the Doctoral degrees in the various universities of Tamil Nadu. For instance, the Doctoral dissertations like *Bhāratiyum Bhārati Dāsaṉum* (Kanagasabapathy, 1977) and *Thamizh Nāvalkaḷil Kāntiyatākkam* (Arunachalam, 1981) can be cited to testify

to the university level recognition of the practice of homogenous comparisons (within the same literature or language) and dissertations like *Jayakānthaṉum Thakazhiyum* (Thirumalai 1981). *The Kuchēla Theme in Tamil and Malayāḷam: A Comparative Analysis* (Sivadasan 1982). *The Message Poems in Tamil and Malayāḷam* (Kannakammai, n.d.) and *Takazhi and Prēmchand* can be cited to show the practice of making transnational comparisons (within the same nation).

Now it is obvious that in Tamil the trends of homogeneous and transnational comparisons have been in vogue from the ancient times to the modern period which cannot easily be brushed aside. They do mark a milestone in the history of the definition of Comparative Literature which fittingly needs to be evolved out of the rich traditions of Tamil culture. As has been emphasised earlier, every literature whether it be the French or the American or the Russian, has basically formulated its definition in deference to the existing historical trends, literary practices and postulates of the active participants of the discipline. So it is no sacrilege to think of expanding the area of "Comparative Literature" in order to accommodate creative works involving homogeneous comparisons and transnational comparisons apart from international comparisons. At the same time, it must be seen that the admittedly comparative works contribute to the aesthetics of comparative appreciation, not just stopping with a mere listing of homogeneous similarities and dissimilarities. In other words, an intellectual substantiation for the presence or the absence of similarities or dissimilarities must necessarily complement the total evaluation of the works of art or authors under comparison, along with an aesthetic appreciation of their respective affinities and differences. This view is strongly recommended by no less a person than Dr. (late) T.P. Meenakshi Sundaram Pillai who emphasizes the need for a reappraisal. of the scope and definition of Comparative Literature in strict reference to the literary trends of Tamil and other Indian languages without any conscious banking upon the Western traditions of comparatism. By way of a post-script, the general tendency of most of the researchers and students is to look for Western models for their analysis of topics chosen from Tamil or any other Oriental literature. But the application of models from Tamil or some other Oriental literature for analysing their Occidental counterparts would be of greater value or validity in our context of being the native speakers of Tamil with an instinctive response to the native literature. In the absence of such efforts the academic pursuits in Comparative Literature are bound to remain incomplete and Comparative Literature becomes a means of study of equations between, say English and Tamil while the norms of study are always from English. Without making any more abstract statements, let us look into some illustrations. For example, take the study of figures like simile, metaphor, or genres like epic, or concepts like imagery where abundant information is available from the rich sources of the ancient Tamil classics like *Kamba-Rāmāyaṇam* and *Cilappatikāram* and other prescriptive treatises like *Tolkāppiyam* and *Yāppu*. We can apply those ancient Tamil principles and concepts to an investigation

of their Western counterparts. An investigation of the *Taṇḍialaṅkāram* concept of imagery as applied to the imagery of Donne or Keats will be a more revealing or authentic sutdy of the subject than *vice versa.* Many more subjects and topics deserve our consideration.

Then, speaking of the writings like *Whitman and Bhārati,* (Sachithanandan, 1968), *Frost and Bhārati,* (Subramanian, 1984) *D.H. Lawrence and Jayakāntaṉ* (Pappa, 1982) they are commendable exercises in comparative evaluation involving Tamil Literature and British or American Literature of a foreign culture, which according to the usual norms of Comparative Literature, find a validated admission to the school of comparatism. But the problem arises only when the norms which originated in the West out of the then working conditions of the field of literary appreciation, are compulsively applied to Tamil or any other South Indian literature under the pretext that the norms are universal. In fact the norms are not universal but they are or they may be identical.[1] Secondly, the results of those compulsive attempts can only be an ideal illustration of the observance of the methods and techniques of the Western mode of comparatism.[2] In addition to that, they are often accompanied by a pedantic tendency to technique-mongering at the expense of a spontaneous response and they can offer no viable solution to the pressing problem of a harmonious growth of Comparative Literature studies in India.

By way of not a contradiction but further revision[3] it could be conceded that the three tier division of the scope of Comparative Literature would mean the duplication are at the very roots of instinctive, of the field of criticism. Instead of trifurcation, the researchers could confine themselves to bifurcation of the area of investigation and concentrate on international comparisons and transnational comparisons accommodating homogeneous comparisons in the latter category and an attempt to ban the valuable bulk of homogeneous comparisons in Tamil out of the discipline of Comparative Literature is horribly pedagogic and pedantic. Secondly, to consider such homogeneous comparisons of Tirutakka Tēvar, Kambar, Parañjoti Munivar and Varantaruvar, which comparing sense, as out of bounds for Comparative Literature and to liken them to the tendency of the Augustan writers "decorating their poems with the epithets used by Spencer and Shakespeare" is nothing short of para-comparative scholarship because Tēvar and Kambar of course never anticipated Parañjoti Munivar and Varantaruvār and their thematic references in their works. The latter writers in a genuine spirit of emulation employed the same theme, and their treatment lies very well within the limits of analogy, a vital part of Comparative Literature. (Sachithanandan and Marudanayagam 1984: 80-1).

NOTES

1. On the assumption that the norms are universal, a rigorous application of one set of norms of one literature to the examination of another literature of a foreign culture is likely to create two kinds of critical perils. Either it can lead to a critical dogmatism or it can result in an alienised understanding of work of art of a foreign origin. Moreover, a foreign literature is likely to surpass the norms of assumed universalness. Therefore to say that the norms are universal is not as convincing as to say that the norms are or may be identical.

2. A strict adherence to formalities or techniques may have to suffer the fate of Addison's *Cato*. Observing the three classical unities i.e., the unity of time, place and action, the play was written but it miserably failed to attract the appeal of the spectrum.

3. Part of this published in *Jadavpur Journal of Comparative Literature* 20-21, 1982-83, pp.86-94.

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Tolkāppiyam.

CONTRIBUTION OF TAMIL PROVERBS TO DIETOLOGY AND FOOD CONSUMPTION

V. Perumal.

INTRODUCTION

Proverb is the shortest possible sentence consiting of maximum possible meaning. Tamil is a language of proverbs. An attempt is made here to focus the contribution of Tamil Proverbs to the various scientific aspects of dietology. The term dietology can be defined as an analytical and objective study of all aspects of diet purely from a scientific point of view with technical precision.

FOOD IS A BASIC NECESSITY:

According to economists the human requirements are well classified under three major headings viz., necessity, comfort and luxury. Food, clothing and shelter come under the category of necessity. Among the three, food is the most important and fundamental necessity for human existence. Diet is a technical term in medical profession whereas food is a general term used by every common man. If man becomes hungry, all his ten virtues will disappear goes a Tamil saying (*Paci vantiṭa pattum paranttu pōm).* It explains beyond reasonable doubt the basic necessity of food. It is clear that this old saying is based on universal truth. 'Rice porridge is coming; where is it coming?' is a jocular proverb pregnant with material and spiritual meaning (*Kañji Varadappā, Engu Varudappā).* 'Penny wise and Pound foolish' is mentioned as 'Mustard wise and Pumpkin foolish' in the form of a Tamil proverb. It confirms the food consciousness of the Tamils.

RANKING OF FOOD:

The concept of hierarchy and ranking is a part and parcel of human thinking. It is as old as the hills. It is found in every human activity, field and discipline under the sun. While mentioning the three prizes we always say the first prize, the second prize and the third prize. While referring to letters of the alphabet it is always said as A, B and C or X, Y and Z. It shows the systematic thinking of human brain throughout the world. According to ancient Tamils, ranking was given to food. Nectar (Ambrosia) was given the first rank. But it is a belief that nectar is the food of the Gods. Hence, for all practical purposes, the following items of food were given the first rank:

(a) *Vadai*
(b) *Pāyasam* (Jelly)
(c) Milk
(d) Milk Rice
(e) Dhal

(f) Ghee
(g) Honey
(h) Fruits (Mango, Banana, Jack Fruit) and
(i) *pañcāmirtham*

The idiomatic term *Vadai Pāyasam* is a sign of sumptuous dinner of a very high order. It corresponds to the killing the fatted calf and cocktail party. The term 'triple fruits' is an age old Tamil collective term which is mentioned in Tamil as *Mukkani* (Three Fruits). 'Food without Ghee is useless' is a well known Tamil adage (*Neyyillā Vundi Pāl*). 'He who collects honey will lick and suck his hand' is a folk proverb (*Thēn Eduttavan Purankkaiyai Nakkuvān*). *Pañchāmirtham* is a very delicious mixture consisting of five tasteful ingredients. The literal meaning of *Pañchāmirtham* is 'five nectars.' It is closely associated with Palani in Tamil Nadu where the famous temple of Lord Murugan is situated. The lowest rank is given to *rāgi* gruel, (*Kūl*). *'Even if it is a ragi gruel bathe and drink'*, goes a Tamil Proverb (*Kūlānālum Kulittu Kudi*). *'Even* if you drink *rāgi* gruel don't have partnership' is another old saying (*Kūl Kudittālum Kūttu Āgādu*). The word *even* which appears in both proverbs must be noticed very carefully and minutely as it confirms beyond shadow of doubt the most inferior position of *rāgi* gruel. 'He drinks *rāgi* gruel but gargles with rose water' is another Tamil adage which brings clearly the contrast of the superiority of the rose water and inferiority of the *ragi* gruel. 'Stomach cries for *rāgi* gruel whereas pigtail cries for flowers' is one of the popular sayings in Tamil Nadu. (*Kumbi Kūlukku Aluvudu, Kondai Pūvukku Aluvudu*). From the scientific point of view, it is clear that the first rank items of food have a greater degree of nutritional value. Superior food is no doubt a status symbol. Dhal has a significant status as it is a must in wedding dinner. 'Can there be a wedding without dhal' goes a Tamil saying. (*Parupillāmal Kalyānamā?*). Besides *rāgi* gruel, even the millet is considered most inferior accordng to the food habits of Tamil Culture. 'As hungry bull entering the millet field' is a well known popular proverbial simile (*Kānja Mādu kambangolleyilē Puguntatu Pōlē*). A hungry bull will eat anything irrespective of its quality. This proverb has a metaphorical meaning. Between the superior and the inferior food there is rice porridge (*Kañji*). 'Where there is cooked rice that is heaven, where there is rice porridge that is paradise' is a jocular but meaningful twin proverb in Tamil. (*'Sōru Kanda Idam Sorkkam Kañji Kanda Idam Kailāsam'*). The fertility of a land is poetically and hyperbolically mentioned as 'Milk and honey are flowing', in a very beautiful and pleasant manner (*Pālum Thēnum Pāyudu*). The sweet speech is compared to honey. Taking into consideration the various items of food pertaining to Tamil Nadu from time immemorial the follwing precise ranking can be given without any fear of contradiction:

i) Rank - Milk, Fruits, Honey.
ii) Rank - Cooked Rice.
iii) Rank - Cooked Rice Porridge (*Kañji*)
iv) Rank - Millet (*Kambu*).
v) Rank - Ragi Gruel (*Kūl*).
vi) Rank - Water

'The name is 'Ganga' but there is no water to drink' (*Pēr Gangai Kudikka Tanni Illai*) is an adage in

Tamil which clearly confirms the lowest rank of water in the evaluation of food.

The forsaken and fully deserted area is known as 'waterless jungle' according to Tamil idiomatic expression *(Tanni Illā Kādu)*. To send a man to a place where there is no water and ask him to reside there is the most severe and cruel form of punishment according to the canons of penology of ancient Tamil Nadu. Water which is most essential for human existence occupies the VI Rank in the food hierarchy of Tamil Culture. 'Sesame ball according to the poor' which clearly indicates that food is an exact symbol of social status *(Elaikku Tagunta Ellurundai)*.

BREAD AND BUTTER AIM:

All human activities on the surface of the earth have bread and butter as their basic aim. 'Man does ten million kinds of work only for the sake of *ragi* gruel' is a Tamil proverb based on fundamental economic principle. Food is revered and worshipped according to the spiritual culture of the Tamilians. Jocularly but at the same time relevantly, stomach is mentioned as Stomach God *(Vayirru Perumān) (Pōrri Pōrri Enbādellām Vayirru Perumān Poruttu)*. The divinity of food is mentioned in Indian idiom 'Anna Brahman'. The Goddess of food is mentioned as Anna Laksmi. The woman who feeds the poor is mentioned as Annapurani which is also a proper name and very popular.

THE ETIQUETTE OF EATING:

The ancient Tamil savants have formulated a code of conduct regarding eating. One of the basic social rules of eating is that one must sit and eat. 'Even if you beg and drink gruel sit and drink' is a Tamil adage *(Irandu Kudittālum Irundu Kudi)*.

QUANTITY OF FOOD:

One of the purposes of taking food is to satisfy one's hunger. Though the exact quantity of food to be taken by a person at different times of the day was not mentioned with mathematical accuracy, a general guideline was given by one of the Tamil proverbs which is well known among the Tamilians. 'It is harmful (poisonous) to take excessive food even if is nectar' (Don't eat beyond the limit though it is a nectar) is a very beautiful Tamil adage *(Alavuk-Ku Miñjināl Amirthamum Nañju)*. It shows a sense of moderation among the Tamils with reference to food. 'Take a ladle of rice less, that will reduce your fat' *(Agappai Kuraintāl Kolupellām Adañgum)*. A man who eats too much is ridiculed as Kundōtaran and Sāppāttu Raman. 'Don't desire excessive food' is a proverbial advice *(Mēdūn Virumbēl)*.

REGULATION OF TIME:

In ancient days, time was calculated and communicated only by natural means, as modern sophisticated instruments were unknown. The proper time of taking food was effectively mentioned in the Tamil Proverb as 'Even if it is milk, take it only when you are hungry'. *(Pālānālum Pasikka Pusi)*. 'Even if you take food with milk, take at the appropriate time'. *(Pālōdu Āyinum Kālam Arintu Vun)*.

HOW MANY MEALS PER DAY?:

There is a precise answer to

this dietetic question in the form of a quadruple proverb:

An Ascetic takes food once a day;
An average man takes food twice a day;
A man who takes food thrice a day will become sick;
He who takes food four times a day will certainly die.

Following is the Tamil version:-
Oru Pōdu Vuṇbān Yōgi
Iru Pōdu Vuṇbān Bōgi
Muppōdu Vuṇbān Rōgi
Nānqupōdu Vuṇbān Vudal Viṭṭu Pōgi 11

The above proverb confirms beyond a shadow of doubt the unhealthy and undesirable consequences of over-eating.

THE TECHNIQUE OF EATING:

The ancient Tamilians had a clear idea regarding human anatomy and physiology. The food that is taken must be fully and properly chewed and masticated. The systematic grinding of food by teeth will certainly help, to a very large extent, in the process of digestion. 'He who chews fully and eats will live for a hundred years' is a Tamil maxim (*Norunga Tinravan Nūru Vayadu Iruppān*).

FOOD AND SOCIOLOGY:

According to economic ethics and social philosophy of the Tamils food is common to all. Ancient Tamil Nadu witnessed the right type of socialistic pattern of society. Divide and consume was the socio-economic policy practised by the Tamils of yore. 'The beauty of the dinner lies in sharing the food' is a common saying (*Vuṇdikku Aḻagu Virundōdu vuṇdal*). The basic principles of socialism, communism, humanism and the socio-economic motto, viz., 'Each for all and all for each' were fully realised and perfectly actualised in the day-to-day life of the people of ancient Tamil Nadu. 'Even if you take medicine share it with your friends'. (*Marundōdu Āyinum Viruntōdu Vuṇ*) is a popular Tamil Maxim.

GIVING ALMS:

Philanthropy in general, and alms offering in particular, is considered to be the supreme virtue. 'Offering cooked rice is superior to all gifts' is an adage of Tamil Nadu (*Dhānattilē Sirantadu Anna Dānam*). Offering cooked rice to the poor is a virtue from the social point of view and a sacred act from the religious point of view as per the principles and philosophy of Tamil Culture. The Tamil epic *Maṇimēkalai* avers 'he who provides food to the multitude is the giver of life' (*Mandini nālattu vāḻvōrkku vuṇdi Koduttōr uyir koduttōrē*).

THE SIGNIFICANCE OF SALT:

Semiotically speaking, salt is the dual symbol of food and deliciousness. Though salt is used only in small quantity its delicious value is very great. 'Throw the saltless food into the garbage' goes a Tamil saying (*Vuppillā Paṇdam Kuppaiyilē*). Another adage which is in the form of advice says 'Remember them throughout your life who gave you salt' (*Vuppiṭṭavarai Vuḷḷalavum Ninai*). In this adage certainly salt represents the whole food. A tasteless food is popularly mentioned as saltless food (*Vuppu Sappu Illai*).

CLASSIFICATION OF TASTE:

Food is classified on the basis of taste into six cardinal divisions:

Name of the Taste.	Example	Semiotic Significance
1) Sweet	*Pāyasam*	Happiness
2) Sour	Tamarind	Hatred
3) Hot/Pungency	Chilli	Anger
4) Bitter	Bittergourd	Enmity
5) Saline	Salt	Gratitude
6) Astringent	Areca-nut/ Betelnut	

COMBINATION OF FOOD:

Combination of food has a dual basis of dietetics and taste. Bread and butter or bread and jam is a good and accepted combination according to the Western food culture. In the same manner *rāgi* gruel and mango pickle form a delicious combination. 'Mango pickle cannot be defeated by *ragi* gruel' is the exact literal translation of Tamil adage *(Kūḻukku Māṅgāi Tōrkkumā).* But the real meaning is *rāgi* gruel and mango pickle form a tasteful match of a very high delicious order. Mango pickle is so delicious as it enables a person to eat more cooked rice in general and curd-bath in particular. 'Mother may not feed with rice bur mango (pickle) will feed' goes an old saying in Tamil *(Mādhā Cōttada Sōṟu Māṅgāi Cōttum).* It is worthwhile comparing the combination of *pāyasam* (jelly) and *appaḷam, iddli* and *chuṭṉey* or *sāmbār* in the Tamil context and coffee (tea) and biscuits in the Western context.

The six cardinal tastes are collectively mentioned as *Arusuvai* in Tamil. A dinner with the six cardinal tastes is mentioned as *Aṟū Suvai Vuṇdi* in Tamil. Such a dinner is considered as an aristocratic dinner of a very high order. It must be noted in this context that apart from these six cardinal tastes, there are two main items of food, viz., cooked rice and water which do not belong to any of the above categories.

TAXONOMY OF FOOD:

Food is also classified on the pattern and technicality of eating in the following manner:

No.	Technicality	Example
1.	Chewing	Cooked Rice
2.	Biting	Cracknel, *Appaḷam*
3.	Drinking	Buttermilk, Pepper-Water
4.	Licking	*Pāyasam*

Hence food is mentioned as fourfold food *(Nālvagai Vuṇavu).* Such a minute classification corroborates fully the taxonomical consciousness of the ancient Tamils even in ordinary day-to-day food habits.

THE ROLE OF CLEANLINESS:

Cleanliness is given utmost importance both in preparing and taking food. As per the social custom of the Tamils one must fully and properly clean one's legs, feet, hands and mouth before and after taking food. After taking food one need not clean one's legs and feet. This custom is based not on any blind belief or faith but it is based on the principles of health and hygiene. A proverb says 'Cleanlines will feed you' *(Suttam Sōṟu Pōdum).* The same maxim is conveyed in a negative form as 'Dirt will kill you' *(Eccil Irakka Vaikkum).* It is absolutely clear that

the dietology and food habits of the ancient Tamils were based on scientifically sound principles of health and hygiene.

FOOD AND MEDICINE:

Dietology and food habits envisaged by the ancient Tamils were based on *Siddha* system of medicine and naturopathy. Each and every item of food was analysed objectively and minutely and its nutritious value and medical relevance were determined with scientific accuracy. As a matter of fact a proverbial maxim says 'Medicine itself is food and food itself is medicine' *(Marundē Vuṇavu Vuṇavē Marundu)*. So, it is clear that Medicine and Nutrition were considered to be twin sciences both from the academic and practical points of view.

REST AND RELAXATION:

Sufficient amount of rest and relaxation are essential for sound health.

'Rest a while after dinner
Walk a mile after supper' goes an English adage. 'Even a volunteer requires rest after dinner' is a well known adage in Tamil *(Vuṇda Kaḷaippu Toṇdarukkum Vuṇdu)*.

FEASTING AND FASTING:

From time immemorial the Tamilians practised feasting and fasting in a well balanced manner in order to maintain perfect equilibirium in health. For example, *Poṅgal* is a feasting festival and Mahālakṣmi *Viradam* is a fasting festival. Both are equally important. 'Fasting is a superior medicine' is an oft quoted proverb *(Langaṇam Parama Ousadham)*.

Feasting and fasting have religious and health values to a very great degree. It is a well known medical fact that fasting is the only medicine to cure indigestion, stomach-ache, constipation, head-ache etc., according to the fundamental principles of naturopathy. For that matter, fasting has a significant role to play in any medical system under the sun.

GENERAL:

The Right hand is known as rice hand *(Sōṟṟukkai)* in Tamil. The ordinary cooked rice is called *Sādam* and holy cooked rice is called *Prasādam*. In Ancient Tamil Nadu there were thousands of free feeding choultries. Such choultries were known as *Dharma Chāttiram* and *Aṉṉa Chattiram*. To build a free feeding inn and feed all people in general and the poor in particular was considered as the superior form of virtue according to ancient Tamil ethics. 'Give alms before you eat' is a well known Tamil maxim, pregnant with meaning *(Iyyaimiṭṭu Vuṇ)*. Tamarind Rice *(Puḷiyōtarai)* and butter are associated with Tamil Iyengars and Lord Krsna respectively. At the macro level, there was an individual feeding almost by everyone daily. 'Food is for all' is an adage. *(Paṉṉia Poṅgal Pattu Pērukkum)*. 'Dinner in the free choultry and sleeping in the free lodging house' is an old saying of Tamil Nadu *(Chattirattilē Sappādu Sāvadiyilē Padukkai)*. Salt is a semiotic symbol of gratitude. The importance of offering alms is elaborately explained in *Maṇimēkalai*, a great and ethical Tamil epic of the Cankam Age. 'If there is no rice, all the five senses will die' is a Tamilian saying *(Aṉṉam Oduṅgiṉāl Añjum Oduṅgum)*.

CONCLUDING REMARKS:

(1) The ancient Dietology of Tamil Nadu was based on sound scientific and health principles.

(2) Each and every minute detail regarding every item of food was well known to the ancient Tamils.

(3) Food items were well classified on different logical bases.

(4) The medical value and nutritional content of every item of food were clearly identified.

(5) The *Siddha* system of Medicine and Naturopathy were the twin foundations of ancient Tamil Dietology.

(6) The economic philosophy based on social justice was perfectly implemented in the matter of food distribution.

(7) Giving alms was considered as a supreme virtue as evidenced by the well known maxim in Tamil 'Desire to do charity'. *(Aram Seya Virumbu).*

(8) Plantain leaves were used as plates on special occasions, dinners, festivals and while feeding the guests.

(9) Serving food is a special technique where all the canons of traditional culture must be fully and strictly followed.

(10) Brāhmaṇas are sincere lovers of food and fond of eating *(Brāhmaṇan Bhjōjana Priyan).*

(11) Personal hygiene, cleanliness of utensils and kitchen are uniformly and strictly maintained.

(12) Only right hand is used while serving food and eating.

(13) According to the Tamil Social Culture, a man must not eat when a guest is waiting outside.

(14) A house wife, for that matter any person, must serve food to the guest with a cheerful heart and smiling face.

(15) Buffet Dinner System was practically unknown to ancient Tamils.

(16) The guest must be fed to the maximum possible extent to his heart's content.

(17) The harvest festival of Tamil Nadu is basically a Rice Festival.

(18) From the point of view of food, Tamil Culture is fundamentally a rice culture.

(19) Dinner plays a prominent role in wedding, social gathering, obsequies ceremony etc.

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A REVIEW OF INFLAMMATION AND HERBAL ANTI-INFLAMMATORIES

J. Sadique.

GENERAL

Human rheumatoid arthritis is a chronic crippling and painful skeleto-muscular disorder. The number of people in the U.S. afflicted with all kinds of arthritis is about 17 million. Among them, rheumatoid arthritis is far more crippling and the hopes for cure are at this time minimal (1). In India also, the incidence of rheumatoid arthritis is high. There is no modern medicine available now that will effect permanent cure. Synthetic non-steroidal anti-inflammatory compounds (Aspirin, Phenylbutazone, etc.) and steroids offer temporary relief but the side effects (gastric ulceration and bleeding) are severe. The attempts are also pursued with compounds isolated from herbal resources. Most of the efforts have been confined to assessment of the anti-inflammatory/anti-rheumatic activities of the natural products, using one or a few animal inflammatory models. The understanding of either the long time anti-rheumatic activities of these compounds or the chemical mode of action of these compounds is lacking. The latter aspect has been well characterised in the case of synthetic steroidal and non-steroidal compounds (2-4).

Inflammation is *eao ipso* homeostatic phenomenon which is likely to be the backbone of Pathology (5). It is one of the fundamental responses of the cells and tissues to injuries caused by various noxious and infectious agents. When inflammation is left to itself, it displays a short course of reaction (acute inflammation) but under certain conditions it becomes a more sustained event such as those prevailing in human rheumatoid arthritis (chronic inflammation). The actual cause underlying the chronicity of rheumatoid arthritis is suggested to be the malfunctioning of homeostatic system (6). Several mediators, cellular or plasma factors are formed/released either concurrently or successively in response to an etiological factor. The events that occur during human rheumatoid arthritis are given in Fig.1.

Agents like heavy metals, salts (7), X-radiation (8), turpentine (9), carragenin (10), bacterial endotoxin (11) and tissue injuries in general are known to provoke inflammatory responses in man and animals, known as the acute phase reactions. As a consequence, pronounced changes in plasma protein pattern have been observed. Despite a varied type of agents and different routes of applications, an almost uniform acute phase response has been observed in rats (12). Earlier observations have pointed out a striking increase of plasma

concentrations of fibrinogen (13) ceruloplasmin (14), haptoglobulin (15) and seromucoid protein (7) during acute inflammatory reactions. Further, plasma levels of prealbumin, albumin, choline esterase, transferrin etc., are shown to decrease during inflammation (14, 16). All these changes occurring in blood due to inflammatory stimuli are generally referred to as acute phase reactants (17). Acute phase proteins respond to drug therapy. It has been reported that measurement of -2-macroglobulin is a dependable parameter for assessment of anti-inflammatory drugs (18, 19).

Histamine is another mediator of early phases of inflammation. Studies on histamine metabolism continue to spark investigations in the physiological and pathological roles of histamine and its synthesising and degradative enzymes. Mast cells are the prime site for the synthesis of histamine (20).

The glucocorticoids are reported to stimulate the enzyme histaminase (21) and inhibit the histidine decarboxylase enzyme (22). The possible role of serotonin in acute inflammation has been the subject of numerous investigations. In many animal species, mast cells and platelets contain relatively large amounts of serotonin which is released along with histamine by agents such as dextran (23, 24) turpentine (25) and egg albumin (26) which cause local inflammatory reaction. The initial phase in carragenin edema has been attributed to the release of histamine and serotonin. The edema maintained during plateu phase is suggested to be due to kinin - like substances and the second accelerating phase of swelling to the release of prostaglandin-like substance (27, 28). Di Rosa *et al* (28) have been able to antagonise part of the early edematous response by treating the animal with the anti-histamine plus cyproheptadine. A large number of sulfate poly-saccharides can produce edema when injected sub-cutaneously (29, 30) and almost invariably a kinin-like substance has been found in exudate produced by serotin (31), kaolin (32), brewer yeast (33) and carragenin (34). Direct experimental evidences suggest that bradykinin could be responsible for the intermediate phase of carragenin edema (28, 35, 36). Another factor that is involved in non-immunologically mediated inflammation (28, 37, 38) including carragenin edema (39) is complement. It has been reported that the complement levels in the synovial fluid of rheumatic patients are lower than those in osteo-arthritic and gouty patients (40, 41). These observations are consistent with more recent data (20, 42) suggesting an activation of complement system by intra-articular immunological process. One of the mechanism suggested for the action of anti-inflammatory drug is through the uncoupling of oxidative phosphorylation (44). It has been observed that Mg++ dependent ATPase activity is elevated in liver mitochondria of rats induced with adjuvant arthritis and this activity was brought to normal by aspirin and *W. somnifera* (45). It has been explained that formation of electrochemical gradient of calcium causes an elevation in Mg++ dependent ATPase activity during inflammation (46).

There is increasing evidence that lysosomal enzymes play an important role in the development of acute and chronic inflammation (3, 47). Increased enzyme activity has been reported in certain types of experimental inflammation including rat paw

made edematous by phlogistic agents (48, 49). Acidic anti-inflammatory compounds such as phenylbutazone, Mefenamic acid and indomethacin may exert their beneficial effects either by stabilizing the lysosomal enzymes responsible for inflammation or by inactivating hydrolases (50-52). Scanning electron microscopic observations showed that *Molluco cerviana* and the alcoholic fraction of *C.inerme* were able to stabilize RBC membranes subjected to hypotonic stress (53, 54).

Prostaglandins are released locally during various inflammatory responses both in man and in laboratory animals (55, 56). Action of prostaglandins of E type can be associated with the vasodilation, edema, increase in temperature and pain component of inflammatory diseases that can be blocked by prostaglandin synthesis inhibitors (57).

A good correlation between the ability of non-steroidal anti-inflammatory agents to inhibit prostaglandin synthesis *in vitro* with their activity in both carragenin paw edema assay and *in vitro* anti-inflammatory assay has been reported (57-60). It has been observed that the steroids block the release of prostaglandins (62). Non-steroidal anti-inflammatory drugs inhibit cyclo-oxygenase enzyme involved in prostaglandin bio-synthesis (63). Reports are available on the requirements of calcium for activation of phospholipase A2, in tissues for production of precursors of prostaglandin (64). Anti-inflammatory agents were found to inhibit phospholipase A2, (64, 65).

It has been observed that during carragenin induced granuloma, cytochrome P-450 and b5 and level and activity of aniline hydroxylase in hepatic microsomes were depressed markedly at 6th day when granuloma formation and exudate accumulation occur rapidly (66). These levels were restored to normal when granuloma was in regression at 15th day. Similarly, it has also been reported during carragenin inflammation the enzymes of the liver such as GOT, SDH and Acid Phosphatase are elevated and these enzymes, levels are suppressed after treatment with anti-inflammatory compounds (67).

One common feature of rheumatic disease is that the target organ is connective tissue which suffers the consequences of inflammation and undergoes extensive degeneration. Thererfore, many studies on this effect of anti-inflammatory agents at biochemical level have been concerned with the influence of these compounds on connective tissue itself. The fundamental components of connective tissue are acid mucopolysaccharides and collagen (3). Several anti-inflammatory drugs have been shown to inhibit collagen synthesis using experimental sub-cutaneous granuloma induced in rats (68, 69). In proliferative tissues, marked changes occur in both synthesis and breakdown of collagen (70). The granulation tissue appears with the new synthesis of collagen fibre mainly of type III followed by type I collagen (71). The steroidal drugs inhibit specific steps in collagen biosynthesis such as hydroxylation of protocollagen as well by inhibiting the aggregation of ribosomes (72).

The principle sulphated mucopolysaccharides found in the connective tissue of higher animals include chondriatin-4-sulphate, chondriatin-6-sulphate, Dermatan sulphate, Heparan sulphate and Keratan sulphate. They

are present in connective tissue as moities of larger molecules in which they are attached to proteins by specific covalent linkages (73). They are of high molecular weight and are collectively known as proteoglycans (73). Bostrom (75) identified atleast 3 stages in the overall biosynthesis of mucopolysaccharides that may be particularly affected by some of the anti-inflammatory drugs.

Stage A : Inhibition of oxidative phosphorylation
Stage B : Inhibition of glucosamine 6-phosphate synthetase
Stage C : Inhibition of sulphation process.

The following reviews can be further referred to for more details (76-78).

TRACE ELEMENTS:

Due to the fact that the many varied effects that an inflammation can have on the metabolism of an organism, important theoretical and practical significance has also been given to trace elements (79).

In human rheumatoid arthritis serum zinc and iron are decreased and copper and molybdenum are increased (80). These variations are also reported in cancer (81) and adjuvant arthritis (82) and turpentine inflammation (83). Phenylbutazone increases serum zinc level in adjuvant arthritis (84).

EXUDATION OF LEUKOCYTES:

The migration of leukocytes in inflamed areas sustains inflammaiqn. Mononuclear cells are characteristically more abundant in chronic inflammatory lesions (85). For most experimentally induced inflammation, it has been found that the polymorphonuclear leukocytes are the first cells to enter the injured areas but with time, mononuclear cells predominate (86). Generation of chemotactic activity in the inflamed area is assumed to be a factor in the accumulation of cells (87). The degree of cellularity of peritonial fluid injected intraperitonially with formalin was reduced by many agents at relatively high doses (88).

ANTIGEN INDUCED SYNOVITIS:

In human rheumatoid arthritis, synovitis is one of the features. In adjuvant arthritis, cellular infiltrate is qualitatively different from that of rheumatoid synovitis. So, antigen induced arthritis in rabbits has certain important features that suggest it may be a satisfactory research tool for studies on synovitis (89). Cortisone and pheynylbutazone, and neither chloroquine nor aspirin, are active in this test (90).

TOXICITY:

Most of the drugs employed in the treatment of rheumatic diseases tend to cause gastro-intestinal problems ranging from subjective feelings of discomfort to haemorrhage and development of mucosal lesions of gastrointestinal tracts. It has been reported that aspirin and aspirin like drugs are major causative agents in the development of gastric and duodenal ulcers (91-93). Many non-steroidal anti-inflammatory drugs have been reported to cause kindney damage after prolonged administration to laboratory animals (3). High doses of indomethacin have been reported to cause renal papillary necrosis (94).

EVALUATION OF ANTI-INFLAMMATORY COMPOUNDS:

The screening procedures for anti-inflammatory compounds have

been grouped arbitrarily into four groups according to criterion for activity viz., 1) an interference with manifestation of one of the cardinal signs of inflammation (redness, heat, pain and loss of function). 2) The modification of one of the events occurring during the inflammatory process. 3) a biological or chemical characteristic of a class of known anti-inflammatory drugs or 4) the modifications of those syndromes in laboratory animals which are believed to represent models for various rheumatoid diseases (90). Additional information relating to anti-inflammatory testing methods can be had from these reviews (95-97).

Many inflammatory models are being employed for assessing anti-inflammatory activity (90). According to Whitehouse (98) carragenin edema and UV erythema together with the implanted cotton pellet test will detect all current anti-inflammatory drugs. The rat adjuvant arthritis has the right biological features similar to human rheumatoid arthritis and this is also being employed for screening anti-inflammatory activity (99-100).

In the follwing section, a complete review of the developments of chemical compounds isolated fron the herbs/ crude herbs having anti-inflammatory activity is given.

Gujral and his co-worker (101) had screened a large number of drugs for anti-arthritic effects. Their list of indigenous drugs consisted of popular remedies like *Inula helenium, Boerhaavia diffusa, Glycyrrhiza glabra, Zingiber officinalis, Pinus deodara, Allium sativum, Ferula foetida, Tinospora cordifolia, Berberis arislata* and *Balsamodendron mukul.*

Malhotra and Ahuja (102) investigated the efficacy of Glycyrrhisinic acid as a steroidal agent. Prasad and his co-workers (103) have studied the anti-inflammatory activities of *Pluchea lanceolata, Allium sativum, Alangium lamarckii, Crataeva nurrala, Euphorbia dracunculoides, Cocculus hirsutus* etc. In this connection a review on experimental studies on indigenous anti-arthritic drugs has been written by Singh *et al* (104).

Central Drug Research Institute, Lucknow, in its programme for screening medicinal plants for biological activity has reported that 41 medicinal plants were anti-inflammatory (105-109). In this programme, they have used 50% ethanolic extracts of these medicinal plants. But mechanism of action of these medicinal plants has not been worked out. Similarly in a number of other laboratories in India, many medicinal plants have been tested for anti-inflammatory activity but the studies had been confined to mostly pharmacological aspects.

Rizvi *et al* (110) reported that N-tritri acontine from *Anti-desma menasu* was anti-inflammatory in experimental animals. Khare *et al* (111) showed that etherial fraction of methiseed *(Trigonella foenumgraecum)* was effective in chronic inflammation model and the activity was comparable with that of sodium salicylate. They further demonstrated that aqueous extract of *Ipomoea trupathium* was effective in acute, sub-acute and chronic inflammation in rats (112). Similarly, anti-inflammatory activity was reported for oils of *Ricinus communis* and *Sesamum indicum* (113).

The water extract of *Tinospora cordifolia* inhibited carragenin edema and 5-HT induced edema in rats. It was also effective in granuloma pouch method (114). Nimbidin from seed oil of *Azadiracta indica* was showing anti-inflammatory activity in formalin induced arthritis and croton oil induced granuloma in rats (115). Similarly, aqueous extract of *Myrtus communis* was shown to be anti-inflammatory (116). *Commiphora mukul* was tried clinically in 25 rheumatoid patients; majority showed improvements (117). Methanal extracts of *Acanthus illicifolius* was shown to exhibit anti-inflammatory activity in carragenin edema (118). *Vitex nequndo, vatari gugulu* and curcumin from *Curcuma longa* were demonstrated to be beneficial in human rheumatoid patients (119-121).

The etherial extract of *Curcuma amada* was found to be most potent against carragenin edema and alcohol extract was effective in formalin edema (122). The flavonoids of *Indigofera aspalathoides* and (-) Epicatechin isolated from seed coat of *Anacardium occidentale* (100 mg/kg) were assessed to be anti-inflammatory (123-124). Similarly, vitexin isolated from flowers of *Ochroncarpus longifolius* and *Aosnebiu hisbidisimia* was also anti-inflammatory (125). A number of similar studies has been made using medicinal plants for anti-inflammatory activity (126, 127).

It has to be mentioned that *Salai guggal* (a resin from *Boswelia serrata)* was found to show inhibition of carragenin induced edema and adjuvant induced poly-arthritis in rats. It was found that the development of secondary symptoms in adjuvant arthritis in rats and body weight loss and rise in serum transaminases were inhibited by this drug (128). The clinical trial of this drug in human rheumatoid arthritis and ankylosing spondylitis demonstrated its beneficial effects (129).

Roots of *Withania somnifera* were found to be anti-inflammatory according to carragenin edema, cotton pellet granuloma and adjuvant arthritis in rats. This was demonstrated in our laboratory (130). Further it was able to stabilize both the RBC and lysosomal membrane systems. In addition, it was also able to inhibit phospholipase A2 activity (130). The liver glycogen content which was reported to decrease in adjuvant arthritis was elevated after treatment with *Withania somnifera* (130). When crossed immunoelectrophoresis of serum proteins was performed it was found that the elevated levels of α-2-glycoprotein and α-1-acid glycoproteins during inflammation were found to decrease whereas albumin and pre-albumin levels which were found to decrease in inflammation were elevated by *W.somnifera* treatment (131-132). It was also shown that the α-2-macroglobulin which is elevated during inflammation 7-8 fold has been found to be induced by PGE1 (133). This protein was inhibited by Withaferin A, a steroidal lactone isolated from *W.Somnifera* (134).

W.somnifera was also able to inhibit elevated Mg++ dependent ATPase activity of inflamed liver mitochondria (45). Similarly, the absorption in rats' intestine of C^{14}-proline, C^{14}-glucose and C^{14}-leucine has been found to decrease during inflammation (130), 135, 136). *W.somnifera* was able to normalise the absorption of these metabolites like oxyphenbutazone and possible mechanism has also been discussed.

Leaves of *Clerodendron inerme* were found to be anti-inflammatory in formalin edema, carragenin edema, nystatin edema, granuloma air pouch and adjuvant arthritis (127, 137).

The alcoholic fraction of *C.Inerme* containing flavonoidal glycosides of apigenin, scutellarein and pectinolergenin was able to inhibit phospholipase A2 activity and it was found to stabilize lysosomal membrane systems (138).

It promoted the prevention of joint degeneration in adjuvant arthritis for a longer period of time in comparison to hydrocortisone. The trace elements like zinc, copper and iron were normalised after tratment with this drug. Anti-inflammatory activity was also demonstrated in case of *Crotolaria verucosa, Mollugo cerviana, Cardiospermum halicacabum, Gynandropsos gynophora* and *Alangium lamarckii* in our laboratory (53, 54, 139-142).

The crude extract of *Ephedra Intermedianae* shown to possess anti-inflammatory activity (143). *Echinopanax elatum* was reported to be anti-inflammatory in irritation arthritis in rats induced by formalin egg-white and dextran (144). A coumarin derivative, 6, 7 - dimethyl esculetin from *Artimissia capilaris* was also found to be anti-inflammatory (145). Juling *et al* (146) observed that the tincture of *Triptrygium wilfordii* was able to relieve human rheumatoid arthritis and ankylosing spondylitis. Lindeleyin from rhubarb was also demonstrated with anti-inflammatory activity (147). Pyracrenic acid from *Pyroncantha scranulata* was found to inhibit formation of granulation tissue by cotton pellet method (148). Crude extract of *Guaria guidonia* inhibited carragenin edema and formation of granulation tissue (149). Olaxoside, a saponin from *Olax andromensis, O. glabriflura* and *O. psittaphorum* was also found to be anti-inflammatory (150).

The berberin and other compounds isolated from *Ceptis japonica* were found to be anti-inflammatory in cotton pellet method (151). Flavanol isolated from *Fagophyrum limosum* exhibited anti-inflammatory activity in mice and rats. Platelet aggregation induced by ADP and *S. aurous in vitro* was inhibited by flavanol. This effect was demonstrated *in vivo* also(152).

Transhinone isolated from roots of *Salvia multiorrhiza* exhibited anti-inflammatory activity with infective arthritis (153). The flavanoids from Burmuric gold plants and the crude essential oil of *Schizonepeta tenuifolia* were found to possess anti-inflammatory activity (54, 155). Hall *et al* (156) have demostrated anti-inflammatory activity for various sesquiterpene lactones isolated from different plants in carragenin edema and adjuvant arthritis. Their mode of action as anti-inflammatory agents appears to be at multiple sites. The structure activity relationship for the stabilization of lysosomal membranes for rat liver cathepsin activity followed the same structural requirements necessary for anti-inflammatory activity. Human polymorphonuclear neutrophil chemotaxis was inhibited at low concentrations whereas prostaglandin synthesis activity was inhibited at higher concentrations by these sesquiterpene lactones.

Similarly, a detailed study has been done by Bangbonse *et al* (157)

on cryptolepine, a methyl quinidol from *Cryptalepsis sanquintentsa*. This compound was effective in carragenin edema and it antagonised the effects of acetyl choline and histamine on guinea pig ileum but it did not inhibit PG synthesis in the isolated lizard lung but it antagonized the effects of the PGE2 and 5-HT on the rat's isolated perfused stomach stripes.

It has been postulated that anti-inflammatory activity is probably receptor mediated. The anti-inflammatory activity for chemical compounds such as saponin, flavones, etc., have been reported (126, 158, 159).

The bioflavonoids (derivatives of 2-phenyl benzo-r-pyrone) were reported to be anti-inflammatory in acute phase experiments by several authors (Table-I). It was found that parentral administration of bio-flavonoids is effective in the suppression of exudative phase of granuloma pouch. It was observed that naringin, naringenin, hesperidin are also effective (178) in this model. Similarly, O-(B-hydroxyethyl)-rutin was found to be effective in granuloma pouch (179). When tea tannin was administered with vitamin-C. cotton pellet granuloma was inhibited to 31% (165). In the cotton pellet granuloma inhibition method, quercetin, kaempferol, Kaempferol-7-rahmonside and Kaempferol-3, 7-di-rahmnoside were found to be anti-inflammatory (180). The anti-inflammatory activities of two indenochromen derivatives (Bracelin and hematoxylin) have been tested using this method (177). Only Bracelin was found to be effective. Hematoxylin was effective in acute inflammation. Hesperidin was also demonstrated to be effective in inhibiting U.V. erythema (181). More recently, it has been shown that hesperidin methylchalcone (HMC) is effective in U.V. erythema (182). A significant reduction in U.V. erythema was observed when HMC in large doses was administered orally in combination with other compounds (183). The inflammation produced in the eyes of the rabbits by application of mustard oil drops was given a good protection by rutin (160). The skin inflammation by mustard oil in rabbits was also protected by hematoxylin from logwood. Citrus vitamin-P, a bioflavonoid was found to decrease the permeability induced by leucotaxin isolated from inflammatory exudates (184). It was also shown that the application of citrate flavonoidal complex inhibits blood vessel damage caused by formaldehyde in the mucus membrane of the rectum of the rats. It has been also demonstrated that rutin and coumarin are effective in experimental thrombophlebitis (185). A similar result was also obtained with O-(B-hydroxyethyl) rutin (186) and (+)-catechin (187). Rutin was found to inhibit allergic and hyperimmune inflammation of skin and joints in rabbits (Arthus phenomenon) (188). O-(B-hydroxyethyl) rutin could inhibit 5-HT induced edema (189) but not histamine induced edema whereas large doses of rutin could inhibit the rat paw edema induced by 5HT and histamine. As reported by Shils and Goodheart (190) and Gabor (191) flavonoids are not anti-histamic and their efficacy is much less pronounced. The flavonoids inhibit histidine decarboxylase and the most effective was d-catechin (174,192). Lorenz *et al* (193) has reported (+)-catechin was a potent inhibitor of specific acid histidine decarboxylase from rat stomach. The histidine decarboxylase was inhibted by the flavonoids haematine and brasilein

which possess quinoidal structure (194). The flavonoids could not inhibit the enzymes of histamine metabolism (193). Kato and Gozy (195) have concluded that the essential pharmacologic action of water soluble flavonoids is the protection of the mastocytes from disintegrtation and degranulation during stress. As a result, the liberation of free inflammatory amines is inhibited. On the other hand, the flavonoids obstruct the physical inactivation of noradrenalin which is the natural anti-inflammatory hormone in the early stage of inflammation. Many flavonoids inhibited the action of Bradykinin in order of decending potency: Quercetin, rhamnetin and homoeriodictyol (196). Similarly, Khellin, Furochromon, apiin and hisperetin were shown to possess the similar properties (197). These compounds were also found to inhibit rat paw edema caused by local injection of bradykinin. The anti-bradykinin effect was also shown by amentoflavone and cupressuflavone and apigenin exerted only a weak effect (198).

The possible relationships of lysosome and their enzymes to inflammation are known (199,200). Compounds stabilizing lysosome membrane inhibit the release of enzyme content and occurrence of inflammation. The flavonoids (rutin, tri(hydroxyethyl) rutin, Magnesium flavonoic chelates) exert stabilizing effects on the lysosomes *in vitro* (201). Similarly, (+)-cyanidinol-3 (+)-catechin) was found to exert *in vivo* stabilizing effect on lysosomal membrane in rat liver. Many flavonoids were found to antagonize the effects of prostaglandins. Polyphloretin phosphate (PPP), a derivative of phlorizin was able to antagonize the biological effects produced by PGE2, and PGF2 (202, 203). It was also reported the PPP was a potent inhibitor of PG-15-OH-dehydrogenease (204). Hesperidin and eriodictyol isolated from lemon juice (flavone derivatives) were found to normalize pathological increased capillary permeability (205, 206). From all these studies we understnd that the bioflavonoids exert anti-inflamatory activity by different mechanisms. Further it has to be mentioned that the injection of rutin derivatives (O-(B-hydroxyethyl) rutin) caused the depletion of contents of ascorbic acid and cholesterol from adrenal gland and an increase in the steroidal level of plasma. So the mode of action of rutin derivatives in exerting anti-inflammatory activity is probably based on stimulation of adrenal cortex (190). The role of bio-flavonoids on mitochondrial functions and acute phase proteins during inflammation is yet to be established. Coumarin was found to inhibit rat paw edema induced by carragenin or by thermal injury (207). The action of coumarin was being discussed by Pillar (208). Natural plant tri-terpenoids such as escin of horse chestnut was found to be anti-inflammatory in the early phases of inflammation (209). And the authors advanced a hypothesis that escin seals the capillary by reducing the number and or diameters of the small pores of the capillary wall through which exchange of water occurs. This was also found to inhibit exudation in formalin induced peritonitis and carragenin induced rat serous pleurisy. The newer tri-terpenoids, friedelin and friedelan-3-B-ol were found to inhibit carragenin edema (210) and B-amyrin acetate were also found to be anti-inflammatory (211, 212). Colchicine has been found to suppress the reversed passive arthus reaction in the rats and carra-

genin edema in rats (213, 214). Azulenes isolated from the camomile flowers were found to be anti-inflammatory in kaolin induced edema and it also inhibited histamine release in both allergic and inflammatory processes (215, 43). It has also been reported that sesquiterpene alcohol, (-) bisabolol was slightly anti-inflammatory, whereas its derivatives were more active (61). En-in-dicycloether was also demonstrated to be anti-inflammatory in dextran induced edema in rats (74). In all the natural compounds which exert anti-inflammatory activity, the mode of action, toxicity the property whether the compound is long acting, the effect on connective tissue metabolism, the immuno regulating effects of natural compounds etc., remain elusive. So, the research in this area will be rewarding to understand the mechanism of action of the natural anti-inflammatory compounds.

TABLE : I INHIBITION OF DIFFERENT RAT AND MOUSE PAW EDEMAS BY FLAVONOIDS

Reference	Flavonoid	Dose (mg/kg)	5-S-Hydroxytryptamine	Odema inducer: Histamine	Bradykinin	Compound 48/80	Hyaluronidase	Egg white	Formaldehyde	Cobra venom (early phase)	Cobra venom (delayed phase)	PVP	Dextran	Kaolin	Trauma	Carragenin
160	Rutin	s.c.100						+								
161	Rutin	s.c.100						+								
162	Epicatechin	s.c.100														
	Phosphorylated hesperidin	p.o.200 Or s.c.2x20						+								
163	HR	p.o.2000					+		—							
164	Trimethylolrutin	i.v.100										+	+			
165	Vitamin C Tea leaf catechol complex	s.c.100					+		+							
166	Vitamin C+HMC++	p.o.150-1200	—													
167	Rutin	i.p.500	+	+	+	+			+	+	+		+		+	
168	Acacetin	p.o.25-100							+							
169	Rutin	p.o.300														+
170	HR	gel form														+
171	Taxifolin	i.p.40														+
172	Centchroman	p.o.20-60														+
173	Gossypin + HR	i.p.4x10^{-4}M														+
174	Cherry stalk extract	i.p.60,120,250	+					+						+		+
175	Anthocyanosides	p.o.50,100,200														
176	HMC+Methyl-4-esculetol	p.o. 40, 5														
177	Brazilin, Haematoxylin	p.o. 10,50,100														

+HR = O-(B-Hydroxyethyl) rutin. ++HMC = hesperidin methylchalcone. PVP = polyvinylpyrrolidone.

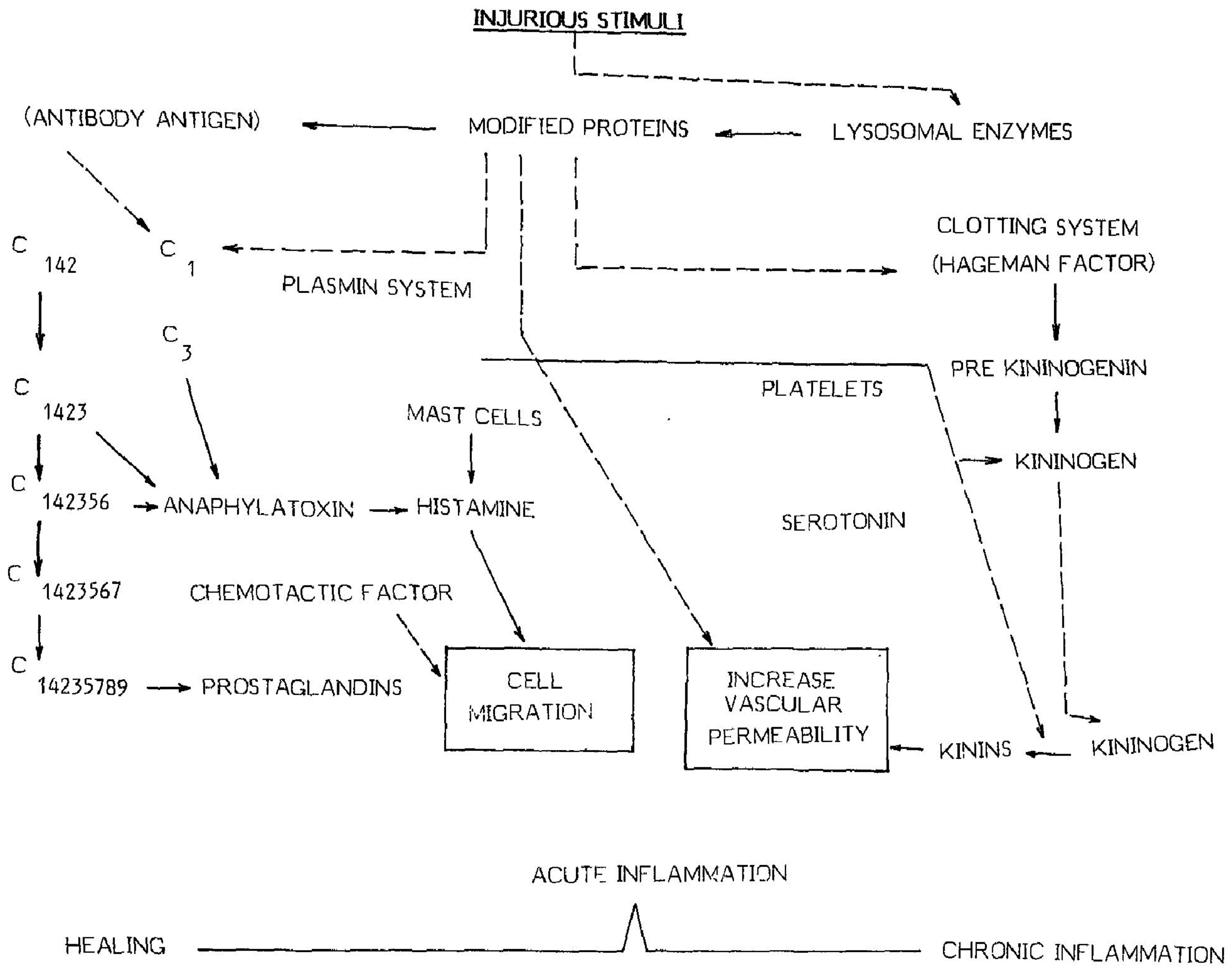

Fig.1.Operational Scheme of the multimediated inflammatory reaction.

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Review Article:

SOUTH INDIAN HISTORY AND SOCIETY (Studies from Inscriptions, A.D. 850-1800)

Noboru Karashima

The history of the Indo-Gangetic plains and their frontier lands had captured the fancy of British and European scholars from the 18th century onwards. Various factors like the kinship of Aryan languages, the mystery of the Vedic-Puranic legacy, the dying splendour of the Mughal empire and the functional value of Hindu-Muslim traditions provided the stimulus for their intellectual adventure into the past, not to speak of the persistent imperial traditions of the North which invited comparison with their own empire.

South India was included in this historical narrative as a post-script. Even then, South Indian history was treated as an appendix to the history of invasions and empires which spilled over from North India. It was not looked upon as an independent field of study in its own right even when the Western pioneers were succeeded by their nationalist critics and disciples. The few Brāhmaṇa scholars from the South had their cultural moorings in the Sanskritic Aryan lore in spite of Rankean spirit of objectivity and professional self-discipline. They did not bring about a radical change in historical perspective. Their innate conservatism precluded them from cultivating openness towards new social theories which were breaking the conventional mould of history everywhere. They habitually neglected the non-Brāhmanical aspects of history, especially the mundane occupations of peasants and artisans outside the *Brahmadēya* villages. Nevertheless, their spectacular achievements in assembling and ordering facts from a welter of epigraphic materials demand respect from every student of history. These culminated in the classic works of Prof.K.A.Nilakanta Sastri. He was able to present a continuous story with fairly reliable chronology and political history though the socio-cultural and economic sections were mostly descriptive. Conventional in form and sober in spirit, this was considered for long to be solid, having been built on the foundation of concrete epigraphic evidence. Other scholars like Appadorai and Mahalingam followed in his footsteps, elaborating some aspects of economic and social life.

The towering temples of the South and their sprawling inscriptions had naturally caught the visitor's eye and demanded explanation. The beauty and power of Tamil classics and the *Bhakti* songs had also thrown up a big challenge. These gave birth to separate studies, but the materials were so varied that they defied

integration for a long time. Social history, art and literature were viewed in terms of the fortunes of ruling families which had carved out small kingdoms or big empires. Hinduism, Buddhism and Jainism were taken for granted as having spread slowly and smoothly from North to South through the efforts of missionary monks who were lucky enough to secure some royal patronage. Some rulers introduced reforms in land tenure or established temples and trade centres; some waged protracted wars leading to conquests; and some others merely carried on the routine administration; but it was tacitly assumed that all of them had unquestionable title and authority over all aspects of socieity and economy. In other words, it was imagined that a full-fledged mechanism of State existed in South India from the earliest times and that it was fully understood by the rulers and the ruled. How, when and why the state emerged and what forces favoured its growth or retardation -- these problems were not seriously considered. There was no question of an economic interpretation, or any interpretation whatsoever.

Some new developments also deserve to be noticed. Prof.Burton Stein and a few other distinguished American scholars had been working nearly for two decades in South Indian history, struggling to achieve a new synthetic understanding of the forces at work in terms of social groups in the light of modern sociological theories. An unintended outcome of their work is that they have come out with sensational formulations. It looks as though the entire academic system of history built up in the course of half a century is pure hoax; that the temples, courts and their documents, along with their literature, formed part of an elaborate make-believe; that the royal families enjoyed nothing more than "ritual" sovereignty conferred on them by the Brāhmin priests, while real political authority stayed with the ancient village and district units, a few of them pre-dating the chief ruling dynasties themselves. From this angle the scholars have ignored the reality of political power which created the ritual, first among the Pallavas and then among the Cōḻas, shifting from one centre to another in obedience to some laws of history, probably following a shift in agricultural prosperity produced by the proliferation of the *Brahmadēya*. Theirs is an extreme view that tries to wish away the mechanism of the King's government, including all the court functionaries figuring in epigraphs, all the wars, movement of resources, and reforms in which they are supposed to have played an active role. All these existed, but, for the sake of theory they were somehow taken to be lacking in substance.

On closer scrutiny the theory of peasant society and segmentary state appears to convey the same message as that of the old theory of stagnation propagated by the British scholars in the period of their empire. Its political aspect is emphasised with a shift from the eternal village to the eternal district (*Nadu*), and it is all dressed up in fresh colourful garments made of sociological theories. A certain vagueness which surrounds concepts like that of the 'peasant' and the 'segment' leads to contradictions and distortions, especially when the peasant is assumed to be a free agent and the segment an autonomous

unit, without adequate support from the sources. Instead of proceeding from reality as represented in records, Burton Stein seems to start with notions of *Kshātra* and *Rājadharma* borrowed from the Aryan historical context and segmentary theory borrowed from sociology and then present *a few facts selected at random by* way of illustration. As pointed out earlier by Prof.Champakalakshmi (*IESH Review*, Vol.XVIII, Nos 3&4, pp.411-26) and Prof.D.N.Jha (*Social Science Probings*, June 1984, pp.270-96) the logic of theory is not correlated properly with epigraphic evidence.

Some members of the American team like George W.Spencer have introduced an element of contradiction by trying to demonstrate that the Cōla state was a powerful predatory *organism thriving on large scale* plunder instead of periodical collection of revenue. Then the old questions crop up again: how did such a mighty institutiuon, supported and assisted *as it was by a powerful and literate* Brāhmaṇa landlord class well-versed in Hindu statecraft, fail to generate the will necessary to convert the plundering drive into the regular *motions of collecting surplus?* Why did they remain at the same stage of political development as the East African tribal society of Alūr in spite of profound socio-cultural *and economic differences? Was it* the hidden power of 'destiny'? Was it a peculiar ethnic handicap from which South Indians and perhaps other Indians, and Africans and Asians *in general, suffered? The concerned* scholars have not yet raised or answered such questions, but the trend of analysis proves to be quite suggestive. These implications apart, it *would be necessary even* otherwise to subject the suitability of methods and the correctness of findings to further scrutiny in view of the gap *between theory and facts* indicated above.

The chief objection to the new peasant theory from the old Marxist *point of view could perhaps be spelt* out as follows: the differences between the feudal order relating to polity and the segmentary state are not clearly and satisfactorily articulated; the insights provided by D.D.Kosambi, R.S.Sharma, Romila Thapar, D.N.Jha and a number of other Indian scholars in the analysis of North Indian ancient medieval *society have not been appreciated* and incorporated; and above all, the developmental stages in the economic base of society and their impact on polity have been thrown *overboard. When peasants are masters* in cultivation and in political management, there is obviously no room for class conflict and no urge for political improvement either. If this is the case, the logical consequences are to be faced, but the pity is that it is only stated but not demonstrated.

*There is no doubt that the advo*cates of the new peasant theory and the segmentary model have successfully exposed some weaknesses in the work of the old veterans; *but in spite of their erudition and* continuous field work, their approach is also based, in the final analysis, on the same arbitrary combination of speculative theories and empirical study of inscriptions chosen at random. They have raised important questions and brought out relevant criticism but created more confusion than clarity with their as yet unsubstantiated postulates. *Technical*

problems like those of translation and interpretation of terms have added to the confusion. For instance, Burton Stein would not find a bureaucracy in the Cōḻa empire. He took *mandira ōlai nāyakaṉ* as a mere scribe while K.V.Subrahmanya Aiyer would see him as 'Superintendent of Royal Writ' *(Peasant Society and State in Medieval South India*, Delhi, 1980, p.360). In the same way, Stein would describe all the forty persons mentioned in the grant of the Larger Leiden plates of Rajaraja I as having played a crucial function in what he calls the 'articulation of Chōḻa ritual sovereignty'. He would notice the chief men of the *Nādu* who receive a royal order with great respect, place it on their head, and participate in its implementation; yet to him all this is not proof of political subordination but only 'ritual' obedience. It is abundantly clear that fresh effort and perhaps new methods are called for. Prof.Karashima's work represents a healthy response to this challenge.

II

This book includes thirteen articles in four chapters of which the matter of fact titles -- "Land holding in Chōḻa Times", "Integration of Society in Chōḻa Times", "Revenue Systems of the Chōḻas and Pāṇdyas" and "Aspects of Later Periods" -- are indicative of the range and scope of study. Records from representative areas and periods are taken up for detailed analysis with the help of four maps and numerous charts and tables. Prof.Karashima is primarily interested in patterns of land holding which link up with state and society at different levels In these chapters the author sticks close to the documents, making only minimal use of concepts and theories and assiduously trying to extract every bit of information from the sources by reference to locality, institution, frequency of association community suffixes and political titles. He progresses inch by inch in sorting out the complex web of land relations and their political implications. The *Brahmadēya*, *Ūr*, *Nādu* and *Maṇdalam* units are taken care of at every stage. Prof.Sastri's classic works, Prof.Burton Stein's critical comments and almost all other studies having a bearing on the subject are used for reference, but the author takes his stand firmly on the primary sources.

There is a refreshing climate throughout since the writer maintains a studied detachment from loyalties, Brāhmanical or anti-Brāhmanical, Aryan or Dravidian, which have been vitiating much of recent Indian writing on South India. He does not postulate a Byzantine monarchy or a segmentary state. He starts from the bare facts of the records, proceeds counting the instances and ends with inferences permitted by their bald statements; but his purpose is not confined to the narrative. His is a sustained effort to discover the underlying consitution of South Indian society as modified from time to time in the long period that witnessed the rise and fall of the Cōḻa empire and the Deccan-based Vijayanagar empire. If at all there is any theoretical framework it is made of the broad notion that in a predominantly agricultural society the control of land as the chief means of production is crucial to the social formations and power structure. In the course of the patient analysis, Prof.Karashima tries to

register each new trend as it appears in the increase or decrease of certain types of transactions. Where previous writers including Burton Stein have often relied on impressionistic assessment, Karashima follows the slow and tedious process of enumeration to identify trends. Unlike Burton Stein who sometimes takes the inscriptions as the chief instruments to sustain a "standardized symbolic system" *(Peasant Society,* p.357), Karashima consistently views them as prosaic records of transactions and, understandably enough, *Meykīrtis (Praśastis)* are completely eschewed by him for fear of contamination by court literature.

This statistical approach is altogether new in its systematic application to early South Indian history and all the more welcome in the wake of the recent interest in socio-economic aspects of life. This may prove to be a very effective method in settling some disputes about the relevance of explanatory concepts. Where sufficient data are forthcoming in quantifiable form this method can be followed until the defects of unconscious bias, oversight and obsession with dogma have been eliminated. Even if the end-product is the confirmation of existing views, the value of this method is not diminished since it transforms a subjective estimate into an objective statement with built-in checking facilities. In this sense the statistical method is an extension, elaboration and application of the logical method, more serviceable now as it is assisted by mechanical computing devices. There is an obvious gain in precision in fixing the topographical and chronological limits of given phenomena. In the present case, the writer's familiarity with a wide spectrum of materials and his competent handling of data have paid high dividends -- he is not only able to confirm certain views and modify or discard others but also succeeds in providing the basis for a fresh theoretical formulation in spite of his assertion that the "presentation of any theoretical framework" lies beyond his province.

The first chapter opens with a seminal essay published eighteen years ago *(Allūr and Īśānimangalam,* 1966) which opened a new line of enquiry with comparative studies between *Brahmadēya* (hereafter indicated as B) and *non-Brahmadēya* (hereafter indicated as NB) villages in the matter of land tenure. The latter had long been pushed into obscurity by the glamour attached to the former. While conceding the importance of the B, Prof.Karashima argues that the NB "formed the basic social substructure" as they formed the majority and were earlier in origin. That they were more numerous is correct; but that they were older is hypothetical; and even if it is correct we may have to agree that in a changing scene the more advanced, or the more evolved, is of great significance to the historian as it holds the key to the future. It can be suggested that only both the types taken together will provide a complete picture. Karashima draws a very interesting inference that communal holding predominated in the NB vilage while individual holding was increasingly the rule in the B village. Criticism of this finding will have to wait, but it may be stated here that this method is an improvement upon that of Appadorai and Mahalingam who generalized from random samples picked up without consideration

of their context in time and space. Here the villages are from the same period (early Cōḻa) and the same region (Kāvēri valley) and thus eminently comparable.

This cliometric project is followed up in three other papers discussing land ownership and transfers in different parts of the Kāvēri valley during later Cōḻa times. Apart from the increase of land transactions by individuals in the NB villages, the studies also yield information about the nature of *Kāṇi* rights and the various taxes in a more systematised way. They exhibit different titles like I *Udaiyāṉ, Araiyaṉ, Vēlāṉ, Ālvāṉ* etc. attached to the donors/buyers/sellers. Military holdings are conspicuously on the increase, the economic status and relations of different communities undergo quick changes and powerful big landlords appear on the scene. Society is plunged into a sort of turmoil by the 13th century according to this evidence. Accumulation of wealth brought by the imperialistic expansion of Cōḻa power during the 11th century and the increase in productivity of land due to new irrigation works and tanks are suggested by the writer as being responsible for the "new agrarian order" that emerged.

The three sections in the second chapter deal respectively with (1) the administrative units of *Brahmadēya* and *Nādu* (2) the problem of the self-sufficiency of village communities, and (3) the clues regarding administration obtainable from the combination of personal names and official titles. The systematic effort to test the validity of the concept of village self-sufficiency -- sponsored earlier by a section of British administrators -- forms a very useful part of the study at this stage. This concept, based on late sources of the 18th century A.D., was often treated as a proven theory capable of explaining Indian history from the earliest to the present day, and, curiously enough, adopted uncritically by the Imperialists, Nationalists and Marxists alike. With all due respect for its age and pedigree, Prof.Karashima proceeds to list it in the case of the forty villages granted to the great temple in the Thanjavur inscriptions of Rajaraja and seven villages which figure in the Gaṅgaikoṇḍacōlapuram inscriptions. The long chart in the book gives all particulars like the extent of territory, taxable area, seven different types of residential sections, water facilities, temples, cremation grounds, threshing grounds etc., in one place. From the distribution of residential areas with a concentration of *Kammāḷas* in some villages and Paṟaiyas in others, from the co-operation of villages in water utilization, from the irregular correspondence of inhabited areas and cremation grounds etc. the author infers that self-sufficiency could have existed in the Cōḻa period only in units larger than the village.

The statistical approach is again employed to identify status indicators of personal names. It is found that titles like *Brahmarāyaṉ* for Brāhmaṇas and *Mūvēndavēḷāṉ* for Veḷḷāḷas were connected in many cases with the names of Cōḷa kings and that they were often associated with the work of administration. Prof.Karashima is able to identify the special relationship of these title holders with the revenue and military activity of the Cōḻa emperors, thus falsifying the contention of Burton Stein that the Cōḻa empire had no bureaucracy operating in the countryside. The

revenue systems of the Cōlas and Pāṇdyas are discussed in four sections of this chapter with a statistical study of the frequent revenue terms based on elaborate charts and tables. The chronological and topographical distribution of the terms reveals the fact that seven of them appear most frequently in both Cōḷamaṇḍalam and Jayaṅkoṇḍacōḷamaṇḍalam, throughout all the four periods of the Cōḷa empire. Some new terms appear from the time of Rajaraja and continue till the end and some other new terms appear in the time of Kulōttuṅga. The analysis of the Thañjāvūr and Gaṅgaikoṇḍacōḷapuram inscriptions leads to the finding that the same rate of assessment prevailed in localities with similar soil and tenure, while different rates were followed to accommodate differences in soil and tenure. This would also go against the segmentary theory in which such differences are attributed not to the conscious manipulation by a royal power but to decision making by different centres.

The underlying unity of the Cōḷa revenue system is projected by the number of common terms which represent the core, as well as by the application of uniform principles. A similar study of Pāṇdyan revenue terms helps (1) to differentiate the two systems -- Cōḷa and Pāṇdya -- clearly (2) to trace the spread of certain agriculture-based industries like oil-pressing and weaving from north to south and (3) to identify the relatively greater economic development of the lower Kāvēri valley in Tiruchirāppaḷḷi district when compared to the region of the old Pudukkōṭṭai state. These exercises were undertaken in collaboration with well known Indian scholars like Prof.Y.Subbarayalu, Dr.P.Shanmugam and B.Sitaraman -- a fact which guarantees the authenticity of the local knowledge commissioned in support of this programme.

The last chapter deals with land relations in the period of the Nāyaks who were appointed by the rulers of Vijayanagar empire. From a statistical study of the inscriptions, palm-leaf manuscripts and British records Prof.Karashima concludes that the Nāyaks were increasing their power by an alliance with the land-owning Brāhmaṇas when they made donations to the temple. He also finds that the *Kāṇi* rights of the Cōḷa period formed the prototype of the *Mirāśi* rights in later times. The state of near-anarchy after the Cōḷa period, the influx of new caste groups and merchants, the disintegration of the village community and the growing influence of the commodity economy are seen reflected in the transactions of North Arcot - Cheṅgalpaṭṭu region.

III

Prof.Karashima's pedestrian passion to cling to the firm ground of epigraphic data and his refusal to fly high leaving the apparently unedifying details below in favour of speculative theory are the strong points in any assessment of this work. He also demonstrates, at the same time, in a thirtythree page Introduction -- the most attractive part of the book -- that this is not the outcome of a certain weakness in reflective calibre but the product of a policy and a discipline. Here he deals expertly with broad themes and conceptual insights and presents a high-level discussion about models and theories. This essay is developed from a statement of his own major

theme i.e. the pursuit of historical development or change in South Indian society. Naturally his approach is in contrast with the 19th century European approach which emphasised the changelessness or stagnation brought about by the self-sustaining village community in India. Therefore he proceeds to examine the validity of the Imperialist, Nationalist and Marxist versions of this stagnation theory. He is aware of the work of scholars like S.A.Dange, D.D.Kosambi, R.S.Sharma, Irfan Habib and Romila Thapar in other areas and other periods, mostly related to North India, and he rightly points out that such studies on changes in society are absent in the case of South India.

Five pages of the Introduction are set apart for criticising the theoretical framework employed by Prof.Burton Stein and Kathleen Gough and the remaining five pages for projecting the outlines of his own theoretical framework which he modestly describes as "points for consideration for future studies on social dvelopment in South India". Evidently the author considers the emerging picture only as a blueprint for aiding further studies. He finds fault with the conspicuous urge for theorising in Prof.Burton Stein which resulted in his interpretations becoming "too speculative". The overemphasis on the *Nādu* as the only significant socio-political reality at a level higher than the village and the hasty assumption about the non-existence of the Cōḷa bureaucracy are certainly very serious weaknesses in Burton Stein's foundation. Having pointed this out, Karashima summarises his own findings which bring out the Cōḷa effort "to build up a centralized administrative network by destroying the barriers between *Nādus* and incorporating them into the imperial admninistration". He cites:

1. the frequent appearance of people who held the position of *adhikāri*, *puravari* etc. in inscriptions;

2. the frequent mention of titles such as *Brahmarāyan*, *Pallavarāyan* and *Mūvēndavēḷān* which are shown to have been borne by persons connected with the kings and the work of administration;

3. the lesser prominence of the functions of *Nāṭṭār*, the people of the corporate assembly of *Nādu*, in Cola inscriptions;

4. the creation of *Vaḷanādus*, larger than *Nādus*, in Cōḷamaṇḍalam in the reign of Rajaraja and in Jayaṅkoṇḍacōḷamaṇḍalam in the reign of Kulōttuṅga; and

5. the organization of land surveys by these two rulers.

The last two factors were already known clearly; the third factor had not been viewed in relation to the king's power and it was also wrongly assumed that *Nāttār* declined in later times. The first and second factors were recognized, but the political status of these persons could be questioned until these tables brought out their associations with kings and administrative responsibilities. It was a suspicion that one always had on contemplating Burton Stein's *mangnum opus* that he was carried away too far by the excitement over the discovery of the importance of *Nādu* for which Prof.Y.Subbarayalu was primarily responsible. Immersed

in preparing the procrustian bed of the segmentary state for the Cōḷa empire, Burton Stein forgot the obvious things and neglected the elementary facts. It is true that a bureaucratic system is not formally described in Cōḷa inscriptions, but they had not been drawn up with that objective. Whatever information we gather about the form of administration is incidental. It has to be collected from scattered sources and subjected to statistical analysis before we come to conclusions. Prof.Karashima has done it more thoroughly than any one else before him, and he has presented the results in balanced language.

It would appear from this experience that Burton Stein's great contribution is not the new explanatory model for South Indian society and state which he supplied, but the commotion that he created by stirring up the placid waters of South Indian studies. He destroyed the complacent attitude of scholars who had come to believe that Prof.Nilakanta Sastri's foundations were unshakable. The challenging concept of the segmentary state, selected by him from the armoury of sociology and displayed with great flourish and flamboyance, had the beneficial result of promoting a minute re-examination of sources. This process has to continue so that many other dark corners are illumined in due course.

In discussing the concept of a peasant society, the Marxist approach is certainly relevant. Having rejected Prof.Burton Stein's model, Prof.Karashima is justified in turning to the Marxist varieties of explanation. He quickly recognizes Kathleen Gough's modified Marxist view of the stages of development in South India, based on the scheme of Darcy Ribeiro, as being the product of a limited study of a small region (Thañjāvūr) and notices the incongruity in regarding the Cōḷa period as a time when the Asiatic mode of production prevailed. He has no quarrel with those who accept the concept of feudalism as a useful tool of analysis, though he criticises Prof.D.N.-Jha for having accepted certain dates of inscriptions furnished by the editor for identifying the crisis in the 13th century A.D. Prof.Karashima's position is clear: he regards the Cōḷa period as "one when the formation of centralized state reached a certain degree of completion" and therefore he thinks that "feudalism could have come into existence only after the decline of Chōḷa rule". I have some reservations about connecting centralized state and feudalism in this manner. I would prefer to discuss the concept of feudalism in direct relationship with the mode of production and social formation, though the character of the State is a good index of the social structure. However, let us follow Karashima's argument in this connection. His assertion about "a certain degree of completion" in "the formation of a centralized state" is borne out by the evidence which he has presented and analysed so well. It does not mean that other forces were not at work, and he himself implies that centralization was not complete. His own tables would suggest that the king had feudal or quasi--feudal relations with units like the *Nādu*, *Ūr*, *Nagaram* and *Brahmadēya*. This type of relationship is more evident in the case of subordinate rulers like the Cāḷukyas, Pāṇḍyas and Cēras outside the core territory of the Cōḷa empire. These apparently contractual relations existed in spite of the attempts of powerful monarchs

to centralise political authority. These forms existed at least from the Pallava-Pāṇḍya period round about the beginning of the 7th century A.D. As indicated in the tables, even the relics of kinship groups like the Muvēndavēḷār continued in the Cōḷa period, though they were exploited by the kings to strengthen their own hands. While perceiving some aspects of this phenomenon, Burton Stein lost sight of the successful efforts at centralization. Having corrected that mistake through the application of the statistical method, why should Karashima go to the other extreme and favour a simplistic view of the state as being centralized enough to exclude feudalism altogether? I would propose that the basic character of the Pallava-Pāṇḍya-Cēra-Cōḷa state system from the 7th century onwards was feudal, though certain factors like foreign trade, controlled by extraneous circumstances, and the unevenness of agricultural production due to geographical determinants, enabled some kings occasionally to pool resources and exercise more than the conventional, theoretical or ritual authority through their bureaucratic netwrok of agents and executives.

Now we turn to other aspects of the soical order which are quite relevant for the consideration of feudalism. There is no prospect of recognizing a typical West European feudal society, though the East European forms hold some striking resemblances with those of South India. We do not pursue this comparison here. As in North India we observe a large number of Brāhmaṇa and military landlords leaving the actual cultivation in the hands of tenants and serfs under them. It is true that the tenants and serfs do not often appear in the epigraphs as parties to an agreement, but the epigraphs were not designed to convey information about the structure of the economy. They registered the grants or donations to Brāhmanical shrines or the arrangements for the management of their properties, but they were not concerned with the practical steps for carrying on the task of cultivation. The land-owning Veḷḷāḷas also figure as donors or buyers frequently, but the subaltern groups of Veḷḷāḷas and Pulaiyas are seldom noticed. Besides *Ūrirukkai*, where probably the proprietors of the Ūr or village lived, areas called *Kudiyirukkai* (residence of *Kudi* or settlers), *Paṟaicceri* (Paṟaiya sector), *Kammāṉaccēri* (Kammāṉa sector),, *Īḻaccēri* (Īḻava sector) etc., are mentioned in the NB villages donated to temples (See Karashima, pp.44-45, Chart I). From these we can infer the existence of various grades of relationship with land, starting with proprietors and going down to tenancy occupancy and serfdom. The manner in which all these people are transferred along with land in the *Kudinīkkā* form of endowment is characteristic of the feudal order. I have come across more explicit references to the transfer of *Pulaiyas* along with land in the 11th century inscriptions of Kerala from Trikkakkara, Tiruvalla and other places, and I think that Cōḷa records have to be scrutinised again in the light of such findings. The exercise of administrative rights, including tax collection and maintenance of law and order, by local magnates or groups which owned landed property, has been brought to light in all earlier studies, and the existence of service tenure is also well established. For these and other reasons which are beyond the scope of this review,

I would prefer to employ the concept of feudalism to understand South Indian society of this period and the corresponding political expression. The unusual proportion of wealth secured from foreign trade and conquest with all the attendant political consequences have forced me at the same time to invent the label of proto-feudalism for the period up to the fall of the Cola empire. It is possible to visualise that the slow maturing of feudal economic forces within society rendered the centralized state completely nonviable by the 13th century A.D. in spite of the continuation of foreign trade and commerce in which initiative had passed into the hands of the Arabs and the Chinese. Well, this proposal is also to be taken only as an alternative hypothesis to be tested in the light of accumulated evidence.

The author is right in stressing that we have to differentiate between two kinds of royal grants--those which gave possession of land or village to the *Brahmadeya*, and those which gave the enjoyment of revenue or tax from land or village to a *Devadana*. The second type is directly connected with feudalism as it represents the alienation of political rights by the State in favour of local magnates owning the temple. The elucidation of the context in which *Kani* rights on land are possessed and transferred is a great step in clarifying the nature of South Indian agrarian society. On the strength of a large number of examples Prof.Karashima concludes that *Kani* in the Cola period carried a further sense beyond the mere right of possession to a certain piece of land, and meant the right to lead a privileged life in the village based on possession of land there. In fact this is the crux of the problem with regard to the concept of feudalism also. In a society in which absolute ownership right is divided into a series of graded rights in different hands, the *Kani* right holds the key to the complex economic structure. Prof.Karashima's careful analysis brings out the fact that the *Kani* right represented the basic pattern for the *Mirasi* rights of the 17th-18th centuries, and this formulation is extremely valuable. In my estimation it reveals the continuity of the feudal nature of land tenure.

IV

Prof.Karashima's extreme reluctance to make assertions and sweeping statements must be understood correctly in relation to the fact that studies are yet to be completed on several crucial aspects of South Indian social history. He is aware of the "necessity of examination and re-interpretation of the Sangam classics and Bhakti hymns in the context of state formation and social dvelopment" in order to determine the character of pre-Cola society from which the Cola society emerged. Apart from this, fresh empirical studies are called for in several fields including trade and urban centres. Prof.Kenneth Hall and Prof.Champakalakshmi have made a good beginning, but much more remains to be done there. Comparative studies between the Cola homeland and the conquered territories are absolutely essential at this stage. Moreover, as Prof.Karashima has rightly suggested, all the theoretical concepts have been subjected to a great deal of change and sophistication during the last twenty years. We have to take this into account in dealing with the

South Indian sources. The rigour and discipline imported by Karashima will, it is hoped, arrest further speculation. Minute analysis of the context in which the donors appear in Cola epigraphs may yet put the position of landlords, tenants and serfs into sharper focus in future. The immense possibilities of statistical study revealed in this work will produce a re-orientation of research programmes at every centre.

Let me now proceed with the attempt to discover some dull patches in this beautiful piece of Japanese *Ikebana*

Some re-thinking seems to be called for in the case of interpretation of data contained in the famous paper on Allūr and Īśāṉimaṅgalam. Īśāṉimaṅgalam with the typical suffix 'maṅgalam' is a B village and Allūr is an NB village. However, this NB village itself is very much under Brāhmaṇa influence. The *Ūr* (village) has a Brāhmaṇa sector with a temple of the Brāhmanical deity called *Pasupatīsvara*. All the epigraphic records examined by Karashima to determine the economic status of the NB village are documents from this Brāhmanical temple. This is only natural since records unrelated to Brāhmaṇa institutions are not many, even in the NB villages. How far can these Brāhmaṇa temple records be trusted to reflect the general distribution of land rights in the village? Only those groups or individuals who were associated with the Brāhmanical temple were likely to come within the frame of the picture. Individual land owners in the village would not figure in the inscriptions unless they got involved in the temple activities. Therefore it is unwarranted to take the absence of individual land owners in these records as indicating the absence of individual land ownership in the NB village. It is legitimate only to look upon this as an index of the popularity of the Brāhmaṇa temple among the other inhabitants of the village. It is true that the *Ūr* (village assembly) had joint or communal ownership of some land in the village, but this was true of the *Sabha* in the B village also as they jointly or communally owned the properties of the temple there. The question is whether individual ownership existed outside the communal property in the village and this cannot be determined by the transactions of the *Ūr* with the Brāhmaṇa temple. At the same time we have references in Sangam poetry of an earlier period to private property in land, since cultivable land is often stated to have been gifted by kings or chiefs to bards or warriors in return for services rendered.

Another difficulty arises out of Prof.Karashima's construction of the meaning of the term *"ūrē uḻudukoṇdu"*, which he makes the basis of an important distinction. According to him it means that the "*Ūr* itself (should) cultivate (the land)". This is acceptable; but it does not imply, as he thinks that the *Ūr* is expected to cultivate it without the help of agents or labourers. Such an assumption leads him to identify the *Ūr* and the *Kudi* since the previous cultivators *(Kudi)* were not to be evicted in this case. Thus he concludes that "the *Ūr* members who probably held most of the land in Allūr were themselves cultivators" and that "there seems to have been only one social stratum, the landholders being the cultivators in Allūr". These conclusions are

probably unwarranted. The command that the *Ūr* itself should cultivate only means that the *Ūr* had to undertake the responsibility for the cultivation of the piece; and that it was free to do it in any manner it chose. The existence of *Kudi* (cultivators) who could serve as agents or tenants under the Ur or the availability of Paraiya agrestic slaves to do the manual work is not ruled out by this phrase. In fact Prof.Karashima himself accepts this position in the succeeding paragraph when he explains the meaning of *"Uḻudukoṇdu"*. Another record in the same temple mentions *"Srikōyil Paṭṭudaivārkaḷ"* in the place of Ūr (*Iśrīkōyil Paṭṭudaiyārkaḷēy uḻudukoṇdu*). Prof.Karashima thinks that the temple priests or servants who took the place of the *Ūr* might not have cultivated the land by themselves. In his opinion "there must have been a group of agricultural labourers who were not the members of the *Ūr*". This goes against the earlier assumption but the second assumption seems to be correct since there is indirect evidence to prove the existence of the *Paraiccēris* (Paraiya sectors) in the NB villages donated to Thañjāvūr temple. In other words this examination of Allūr and Īśāṉimaṅgalam records and the further examination of records undertaken by Karashima and Subbarayalu, mentioned in the same paper, are not able to throw light on the question whether individual land owners existed or not in the NB villages; but they only indicate that even if they did exist they were not parties to the transactions of the Brāhmanical temples located there.

The existence of the two strata -- land owners and labourers -- in the NB village is definitely established by several records of a later phase. While these are the most important, more subdivisions like the Kammāḷar (artisans), Īḻavar (toddy tappers) and Paraiyar (agrestic slaves) are indicated by the Thañjāvūr inscriptions of Rajaraja. What the establishment of a *Brahmadēya* of the *'Kudinīkkā'* type could have done was to create a third stratum, superior to the other two, by converting the original owners into tenants of the Brāhmaṇa landlords and Brāhmaṇa temples. In the 'Kudinīkki' type also the new Brāhmaṇa landlords could have brought their own tenants and labourers in due course. Thus the creation of B villages in large numbers intensified the stratification of society, but not in the manner envisaged by Karashima, not by transforming communal ownership into individual ownership, but by creating more intermediaries between the actual producer and the State. The idea of communal ownership is present to some extent both in the *Ūr* and the *Sabha*, but private ownership of land had already made its appearance in South Indian society much earlier, in the Sangam age. I suspect that in the absence of proper study of the pre-Cōḷa and pre-Pallava periods, the idea of communal ownership contained in schematic formulations might have been haunting the author's mind and prompting him to adopt such postulates in the case of the NB villages.

It is likely that the same process of super-imposing a new landlord class, close to the ruling groups occurred when military land holders were created by way of service tenure, or merchants purchased land without the intention of becoming farmers. The increase in the number of land donations to Brāhmanical

temples in the NB villages of the later Cola period must be taken as indicating the growing popularity of this institution among the non-Brāhmaṇa sections of the people, partly achieved by the efficient management of power and resources by the Brāhmaṇa proprietors and partly as the result of the propaganda through *Bhakti* movement and its literature. The *Brahmadēyas* remained loyal to their kingly benefactors in the beginning and thus augmented the trend towards centralization. When they grew in power and prosperity through donations from all sorts of people, they could have lost the rationale for supporting a central authority, and therefore they seem to have exerted the opposite type of influence. Like the proverbial camel in the tent, the B vilage tended to swallow everything else. This was the typical behaviour of the Brāhmanical temple in the NB village also. In terms of mythology, the Vāmaṇa transformed himself into the universal deity of Trivikrama. In this context the comparative study of the B and NB village might bring to light many things but not the proportion of communal and individual land holdings in South India. The historian may have to travel further backward into remote antiquity, if at all this is possible, in order to locate the period when communal property started giving way to individual property in the villages. For the time being it is necessary to bear in mind the fact that comparison of the records of B village and NB village is in effect only the comparison of the records of Brāhmanical temples belonging to the B village and the NB village. The NB villages lying outside the pale of Brāhmanical settlement remain outside the pale of historiography for the simple reason that such villages have not preserved their documents in copper and stone. They have become outcastes in the world of history, but this will not, all the same, justify the imposition of attributes which are not directly or indirectly supported by the existing evidence.

If this line of argument is admitted, it shows the crucial importance of the meaning of terms and the definition of variable factors in the interpretation of statistical data. Ambiguity in the original text or lack of rigour in the explanation of terms or carelessness in the choice of basic assumptions may lead us astray very quickly and make alternate readings possible. The listing or non-listing of qualifications and the success or failure in apprehending variations in the context may also result in vitiating the findings. We have to learn slowly that the statistical method also has its pitfalls. With increasing speed and efficiency there is also the increasing danger of undetected mistakes. Greater reliability on the case of results will come only with repeated exercises in which we continue the search for precision through the identification and control of variables. Therefore I am sure that Prof.Karashima himself will be the first to welcome such probings in the interest of science. I have not been able to scrutinise in such detail the interpretation of statistical data in all the chapters, but I think that objections are possible here and there.

How were the chiefs, leaders, officials etc., rewarded? Were they paid salaries in cash by the state? The chances are remote in view of the paucity of evidence. On the

other hand, it is more likely that they were all paid by the assignment of land or part of the revenue as in the case of some temple servants like *Uyachchar* (musicians) and(*Naṭṭiya-ttār* (dancers) mentioned in several records. Incidentally this is another feudal practice. These and many other questions can perhaps be taken up in other papers and books, by Prof.Karashima himself or other researchers in future. The design-making and testing will have to be continued until we get a clear picture. Thanks to Prof.Karashima, this process has now been inaugurated in the history of South India. This book also contains the healthy results of team work in research, another great requirement of the age.

In conclusion, let me point out, for the benefit of future researchers in the field, certain qualities and limitations of South Indian inscriptions. What I had observed some years ago (Presidential Address for Section I, Ancient India, *Proceedings of the Indian History Congress*, Hyderabad, 1978) seems to be relevant here. Even apart from the long *Praśasti* portions, these inscriptions are something more than the typical land grants of North India, many of which turn out to be the foundation charters of Brāhmaṇa settlements. But those in South India "carry the story further as they represent the Brāhmaṇa settlements in action at a later stage". This is true of almost all inscriptions, whether they belong to the B villages or the Brāhmaṇa temples of the NB villages. Unfortunately we have few records of any other type. This is a great handicap in reconstructing the history of the 'subaltern' groups or the history of the people as a whole. Only those sections who came willingly or unwillingly under the hegemony of the Brāhmaṇa settlers come to our notice. Therefore, I would like to repeat my old warning that "the historian who depends heavily on epigraphy must avoid the pitfall of confusing the life of the dominant groups in selected areas with the totality of life in ancient India".

M.G.S.Narayanan.

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THE THAI CORONATION CEREMONY AND THE TAMIL DEVOTIONAL HYMNS

S.Singaravelu.

The Thai Coronation Ceremony since the time of the inauguration of the Cakrī Dynasty in 1782 has been carried out in accordance with the reconstructed system drawn on the basis of the surviving information concerning the coronation ceremony of the Ayutthaya period (A.D. 1350-1767) by the Royal Commission appointed by King Rāma I, the founder of the Cakrī Dynasty (Dhani Nivat 1955). The ceremony (Dhani Nivat 1950; Wales 1931: 67-120) consists of the benediction of the royal precincts by the Brāhmaṇas and the Buddhist monks, brāhmanical rituals to invoke the blessings of the Hindu deities, purification and anointing rituals for the king, the recitation of devotional hymns by the Brāhmaṇas inviting the great gods of Hinduism (Śiva and Viṣṇu) to pervade the person of the king, the presentation of the royal regalia (including the crown, the sword, the golden sandals, the fan, the sceptre, and also the Śaivite girdle and the Vaiṣṇavite discus) to the king by the Chief of the Brāhmaṇas, the first command (known as the *Omkāra)* of the king, its acceptance by the Chief of the Brāhmaṇas on behalf of the people, and finally a formal audience granted by the king in the throne-hall.

An important part of the ceremony seems to be the recitation of the devotional hymns by the Phra Mahārājaguru (the Chief of the Brāhmaṇas) thereby inviting the gods Śiva and Viṣṇu to pervade the person of the king. The hymns chosen for the purpose, namely the Tamil devotional hymns (known as the *Dēvāram* of the Śaivite saints as well as the hymns of the Vaiṣṇavite saints (known as the *(Divyappirapantam)* of the period between the 7th and the 9th centuries A.D. have been rather appropriate, for they are, in fact, sacred hymns in praise of the gods Śiva and Viṣṇu.

The hymns, which are entitled in Thai as *poet pratu sivaalai* 'Opening the Portals of Sivālaya', *pit pratu krailaat* 'Closing the Portals of Kailāsa' and *loripāvai* (named after the refrain reading *elōrembāvāi*, have been identified as the first eleven stanzas of the first *Tirumuṟai* 'sacred scripture' collection of hymns attributed to the Saivite saint, Sambandar, and the first ten verses of the seventh *Tirumuṟai* hymns of the Saivite saint Sundarar; the first ten stanzas of the fourth *Tirumuṟai* hymns of the Saivite saint Appar; the *Tiruvembāvai* hymns of the Saivite saint, Māṇikkavāsagar, and the *Tiruppāvai* hymns of the Vaiṣṇavite female saint, Āṇḍāl, respectively. The Thai Brāhmanical manuscript in which the hymns are transcribed in South

Indian *Grantha* script, is dated 1875, but certain significant features of the transcription reveal that the hymns must have been in use in Thailand as well as in Cambodia in an earlier period (Singaravelu 1971).

It would seem that the Tamil devotional hymns of *Tiruvembāvai*, *Tiruppāvai* and also the *Dēvāram* hymns of the Saivite saints were used at the Thai Coronation Ceremony, not only as sacred hymns in praise of the great gods of Hinduism (Siva and Viṣṇu) but also as an effective means of stressing the divine nature of the Thai rulers. The devotional hymns were thought to be truly in praise of the *Dēvarāja*. This would also seem evident from one of the popular festivals which used to be celebrated in Thailand, namely the *Tiruvembāvai-Tiruppāvai* festival, which stressed the concept of *Dēvarāja* as well.

The festival of *Tiruvembāvai-Tiruppāvai* or *Triyampāvai-Tripāvai* as the name of the festival is transcribed in Thai in such works as *Ruang Phraratcha Pithi sip song duan* 'Royal ceremonies for the the Twelve months[2] of the Year', is so called after the titles of the Tamil Saivite *Tiruvembāvai* hymn of twenty stanzas of the saint Mānikkavāsagar and of the Tamil Vaiṣṇavite *Tiruppāvai* hymn of thirty stanzas of the saint Āṇdal, which were recited by the Court Brāhmaṇas at the ceremonies connected with the festival; and the ceremonies were held in the Hindu sanctuaries of Siva and Viṣṇu.

The festival was also known popularly as *Lo Ching Cha* 'To work up a singing motion on a swing' or the Swinging Festival for swinging was a major event of popular interest; it was also of great symbolical significance (Wales 1931: 238-255).

The festival was celebrated in various parts of the Thai Kingdom (Sukhothai, Ayutthaya, Nakhonn Si Thammaraat, Bangkok, and other important towns) in the first Thai lunar month (which corresponded to the period between mid-December and mid-January), though it is said to have been changed later to the second lunar month corresponding to the period between mid-January and mid-February. In south India, the Tamil lunar month of Mārkaḻi (mid-December - mid-January) has been, since the medieval period, an annual occasion when the devotees of Siva and Viṣhnu, particularly young maidens, participated in congregational singing of the *Tiruvembāvai* and the *Tiruppāvai* hymns, ritual bathing, and worshipping the *pāvai* ("image", hence the name of the hymns, *Tiruvembāvai* 'Sacred Image') of deities and praying for rain and spiritual bliss.

The Swing in Thailand consisted of two pillars of teak, painted red. (The Swing posts, still remaining in front of the Hindu temples, opposite Wat Suthat in Bangkok, are of about eighty feet in height). The posts, which sloped slightly inwards, were joined at the top by two carved cross pieces. At the time of the festival, a plank was suspended from the lower cross-bar by means of ropes. Twelve men, in three groups with four persons per group, took part in swinging. The swing moved in the east-westerly direction. By the western side of the swing a purse of coins was tied up on the top of a fairly tall bamboo pole. Of the four swingers, three

would concentrate on operating the swing and the fourth person would try to snatch with his teeth the purse hanging from the top of the pole as the swing was in the ascending motion towards the pole. When the swinging was in progress, the conch was blown and gongs sounded.

After the swing was over, the swingers participated in a circular dance around a brass basin (*khan sagara*) of water, swinging horns of buffalo as they danced. They dipped the horns into the basin to fill them with water which they then scattered over each other.

At the ceremonies held in the Hindu temples, the Tamil devotional hymns of *Tiruvembāvai, Tiruppāvai* and also the Saivite *Dēvāram* hymns (of the Coronation Ceremony) were recited by the Court Brāhmaṇas who officiated at the ceremonies (Wales 1931: 248-249).

The significance of the ceremonies and the recitation of hymns in praise of Siva and Visnu was based on the belief that the great gods of Hinduism came down to earth during the festival to confer blessings on their devotees. When the festival was celebrated in the former days, the Thai ruler himself represented Siva (or Visnu); or he appointed a nobleman to represent him as well as the gods, at the festival. When the king or his representative was seated at the festival ground, for example at the time of the circular dance, people would come and kneel in front of him in the firm belief that they were indeed paying homage to the God-King *(Dēvarāja)* who would bestow on the people symbolic gifts which were equivalent to the divine gifts.

The swinging from east to west is believed to have represented probably the course of the sun *(Sūrya)*, in this respect indirectly representing Siva; or, it may have also represented the Trivikrama 'Three-Strides' of Viṣṇu.

The ritualistic circular dance around the brass basin of water, from which the participants filled their horns with water and scattered it over each other, may be interpreted as an activity symbolic of the rain. In this connection, we may recall that the purpose of the young maidens singing the *Pāvai* hymns at dawn during the Tamil lunar month of *Mārkaḻi* in South India was also to pray for rain. This is evident, for example, from the prayer contained in the fourth stanza of the *Tiruppāvai* hymn itself. If those, who took part in the ritualistic dance in Thailand, scattered water over each other, it was for the purpose of indicating their desire for rain. In the *Pavai* hymns too *(Tiruvembāvai: 11, Tiruppāvai: 13)* there are references to the young maidens bathing and dipping themselves in tanks or pools of water and splashing water over each other, this sporting activity again symbolically indicating their desire and prayer for life-giving rains.

The *Pāvai* hymns also contain references to the belief that the great gods would graciously visit the humble dwellings of their devotees. A similar belief in Thailand was probably responsible for the tradition of the Thai king, or his representative, to represent the great gods at the festival. As mentioned earlier, the king's gifts to the people on the occasion were equivalent to divine favours and gifts to them.

Thus, it would seem that in Thailand the Tamil devotional hymns of *Tiruvembāvai, Tiruppāvai* and also the *Devaram* hymns of the Saivite saints are used at the Coronation Ceremony, not only as sacred hymns in praise of the great gods of Hinduism, Siva and Vishnu, but also as an effective means of stressing the divine nature of the king. The devotional hymns are thought to be truly in praise of the *Dēvarāja*.

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TRADE RELATION BETWEEN COASTAL WESTERN INDIA AND SOUTH-EAST ASIA IN THE 16TH CENTURY A.D.

Annapoorna

In the whole of India, especially on the Western coast, Gujarat was known for its commercial activities in the past. Gujaratis were said to have constituted the 'cream' of the trade and were found everywhere. The social, cultural and economic activities of Gujarat held an important position, due to the steady rise in its graph as an important commercial centre. The concentration of merchants and men of great substance from different parts of the world in Gujarat could be attributed to the commercialisation, which itself might be the result of the external trade. In the network of the external trade of Gujarat, the commercial relations with South-East Asian countries figure as an important feature. This essay is an attempt to throw light on the external trade of Gujarat in the international trade especially as a transit trade centre and also as a production centre of various commodities. It is chiefly based on contemporary sources in Portuguese, Persian and Arabic.

A new chapter of economic prosperity began in the history of Gujarat, after she became an independent principality at the beginning of the 16th century A.D. The coastal region of Gujarat which had a flourishing maritime trade extended from Dwaraka in the North to Chaul in the South. In 1573 Gujarat became a part of the Mughal Empire. Henceforth the ports of Gujarat became the "sea-gates" of North India. The new circumstances affected the pattern of maritime trade, for Gujarat ports began to supply North India with imported goods. The change in the political situation also proved conducive to the continued improvement of the overseas commerce of the province. In 1587 the Eastern trade ceased to be a royal monopoly of the Portuguese and was handed over to the 'Portuguese East India Company'. The new event in the maritime trade of Gujarat in the second half of the 16th century A.D. was the import of European, Chinese and South-East Asian goods to Cambay, by the Portuguese. Gujarat catered to the needs of the trade which was going on very actively. The Gujaratis who are business minded by nature, took it in their stride not only to welcome the arrival of the Portuguese, but also to see the Portuguese settled down as traders. Thus the Gujarat coast became greatly commercialised in comparision to other parts of India.

South-East Asia comprised a few centres like Malacca, Kedah, Bruas, Selangor, Mjamjam, Pase

and Pedir. Among these ports Malacca was an important port. It spreads from Kedah to Acoala Penajy river (Pires 1967:259) which flows into the sea, and then from Maur it is bound by the Muala Resang (Acoala Cacam). It is situated at the mouth of a tiny stream and it has a safer harbour than the harbour at Singapore (Varthema 1928:p.3-4). It was a city set in the wilderness, a fishing village on the outskirts which had metamorphosed into the treasure house of Far East. The trade between Gujarat and Malacca was handled mostly in Gujarati ships. European and Gujarati products were imported to this (Malacca) great South-East Asian entrepot and exchanged for Chinese goods. Malacca was the point of convergence for Gujarati merchants and Gujarati goods, in this region. The two extremes of Asia -- Malacca in the equatorial forest and Ormuz on the outskirts of the desert -- controlled the commerce of the Orient.

Gujarati merchants were found in abundance in Malacca and played an important role. Among the dominant overseas traders in Asia at that time the Chinese traders had, for internal political reasons, disappeared from the seas west of Malacca during the 15th century A.D. In the rest of the area the Muslims were dominant on most of the long distance routes. The Gujarati merchants at Malacca had their own *Shahbandar* who was the chief, who also wielded great influence with the ruler as well as the people of Malacca (Barbosa 1967: 153-4). It was said that about 1,000 Gujarati merchants were settled in Malacca and, 4,000 to 5,000 merchants were visiting this port every year in the first half of the 16th century.

The most important products of Gujarat were cotton textiles in a large variety of styles, qualities, colours and patterns from Cambay. For quality and durability they were considered to be among the best in Asia. Next to textiles ranked indigo which was refined at Cambay, but produced at Sarkhej near Ahmedabad. Cambay also exported drugs and medicinal products, especially opium, and also spikenards, carnelians, arrowroot, lac, borax and Indian wormwood. Other products were legion: there was a strong handicraft industry making weapons, furniture and jewellery. Silk weaving, using raw silk from Bengal, was the second great textile concern, especially in Ahmedabad, Surat and Cambay. Barbosa has vividly described the scene at the port of Pegu in Burma. He says that every year many Moorish ships came to trade and brought abundant Cambaya printed cloths, both silk and cotton, called *Patolas*. These merchants also took opium, copper, great store of scarlet-in-grain cloth, coral (both worked and threaded), vermilion, quick silver and many other Cambaya drugs. Cambay also exported bracelets for women and boxes and caskets 'garnished with gold and silver', which were prepared from tortoise shells available from the Maldives, and which were highly prized at Surat and Cambay. Pires also mentions silver being exported to Burma. Both the Portuguese travellers, Barbosa and Pires, speak of Gujarati traders sending every year a ship mainly loaded with textiles to Thailand and Siam. Tenaseriam was also an important Port of call for the Gujarati merchants.

The principal exports of South-East Asia were cloves, mace, nutmeg, sandalwood, seed pearls, porcelain,

a little musk and benzoin. Many commodities were collected from the various centres of South East Asia, from where they were peddled by the Gujarati merchants. In this connection, Pegu produced sealing wax, rubies, musk and in return copper, quick silver, vermilion, coral, cotton and silk cloths and opium were imported from Gujarat. Nutmeg and maces were exchanged in Banda for the cloths imported. In the same way Moluccas supplied cloves in return for cloth, copper, quick silver, vermilion. Slaves, silver, honey and sandalwood were collected from Timor in exchange for cloths from Gujarat. From the Burmese ports high quality lac, elephants, rubies and articles of Malaccan origin were exported (Barbosa 1967: 154,156). Torne Pires also mentions the annual visits of Gujarati ships to the neighbouring ports of Martbam as well (Pires 1967:101). Thus Malacca was the centre from where merchandises were purchased and brought to Gujarat. From there these were transported to the other ports on the Western coast of India and finally to the African ports as well as those on the Red Sea and the Persian Gulf.

The distance between Gujarat and South East Asia being great, Malabar was a stop-over for these merchants. The Gujarati merchants flocked at Malabar not only to secure local and foreign commodities, but also to sell their own goods. These merchants had their settlements in Cannanore, Cochin and Calicut (Mathew 1983:12). Pepper and ginger were the two important products produced at Malabar. The Gujarati ships carried some of the commodities of Malabar, on their way to South East Asian countries and also on their return journey collected some more products and carried them to Gujarat which were later on exported to the Middle East and the European countries. Thus the location of Malabar at the cross-roads of Afro-Asian sea lanes had transformed it into an emporium of goods from various parts. Along with Malabar, the Maldive islands were a convenient place for ships from the Red Sea, and the Persian Gulf to anchor. Gujarat imported from the Maldive islands cowrie, which circulated as small money (Barbosa 1967:105-6). Commodities like tortoise shells were also collected from here to be taken to Gujarat. Mangrol was an important port-town, where many ships visited annually. Somnath Patan was a large town which was called Palanexy by the Portuguese. It had a good harbour which drove a profitable trade. Cotton cloth and coloured silk cloths, which were richly embroidered and which were used throughout India, Bengal and Malacca were exported from here.

The island of Diu had a good harbour; it was a trading port used by many ships with exceedingly great traffic and commerce with various parts of the world. A number of ships sailed from here to Aden, Mecca, Zeila, Barbara, Melinde, Mombasa, Sheher and Ormuz. For many years Diu occupied an important place in Indo-Portuguese politics, and it was not just a mart from where the Portuguese merchandise for Europe could be shipped. Its importance in Portuguese eyes was that it was a stronghold where, as long as it continued to be in Muhammedan hands, the Turks could always find a sanctuary there. The stamped cloth of Gujarat, however, had an extensive sale all over the East, and when, there was war ever since

the cession of Diu by the Portuguese, the people felt severely the stoppage of the supply of these cloths, which were used as currency in many places beyond Malacca.

The next city Goga was a big village in the kingdom of Gujarat, situated on the coast of the gulf of Cambay, opposite to the town of Cambay. Here one could find all the goods found in Diu (Ribeiro 1961:224). Goga was a minor port which was a ship-building town. Goods were being despatched from Cambay to Goga where big ships would anchor. This was done in order to relieve the congestion at important ports. Thus Goga as a subsidising port played an important role in the local economy.

The greatest port in Gujarat around 1500 was Cambay. Tome Pires (1967:42) describes Cambay as stretching her two arms, with one arm she reaches out towards Aden and with other she reaches out towards Malacca. Cambay itself was the result of the silting of the Gulf of Cambay, one mile inland. Yet this great city, despite its advantages as the best sited port to serve the most fertile area in Gujarat, faced serious difficulties, first from the continual problem of the silting up of the upper reaches of the gulf, and secondly, from the decaded tidal bore in the gulf, which by repute could put even a man on horseback in danger (Barros IV:V:2). For these reasons ocean going ships usually anchored off either Diu or Goga. The town was like Flanders in the matter of trade. This famous port was inhabited by both Muslims and Hindus. The local people were almost fair in complexion.

The city of Gandhar (Barbosa 1967:135) was situated at the mouth of a small river and was a great centre of trade where a great variety of commodities were exchanged. Cotton cloth, wheat, grains, horses, and carnelians (Barbosa 1967:137) were exported from here. Since the water would always recede and come up, the navigation to this town was rather dangerous.

Bharuch was another important trading centre. It was both a point of exit and entrance for goods in Gujarat. The Gujaratis could obtain cloves, cardamoms and other imported items from here. The main attraction for the outsiders was the textiles, yarn and cotton. The popularity of textiles of Broach was primarily due to their suitability for the overseas market in South-East Asia and Red Sea region.

Next, the city of Rander, inhabited by the Muslims, had strong well-built houses and squares. Before the arrival of the Portuguese, it was the great mart for Chinese porcelain. It was a wealthy place and the inhabitants traded in their own ships with Malacca, Benguala, Tenaseriam and Pegu and also at Martabalam and Sumatra, in spices of diverse sorts and drugs and silks in great abundance, musk, benzoin and porcelain and many other wares. Also oils and scents were distilled in Rander. Those who wanted to see ships from China and Malacca could see them here more frequently than in any other place and these ships were strong and huge. The Muslims residing in this place were very rich and well respected. The Hindus who lived in this town were also fair in complexion.

The great town of Surat, located on the bank of a river, was inhabited by Hindus and Muslims and all sorts of commodities were found here. The preeminence of Surat among the ports of India was beyond any doubt. In the early 16th century, Surat was helped by its governor Malik Gopi in the struggle against Diu. This was a city with considerable maritime interest. This was one of the chief ports of Gujarat, which had several wealthy merchants as its residents.

The city of Bacaim or Bassein was inhabited by Hindus and Muslims. The picture of peaceful trade was disturbed by the Portuguese. Bassein was subjected to indiscriminate plunder and arson. All Gujarati ships bound for the Red Sea had to call at Bassein and take a *cartaz* and on return journey again go first to Bassein and pay duties. The cession of Bassein was the only tangible gain for the Portuguese.

The best city of the interior was Champaneer (Champanell). It was situated away from the sea-shore. It can be presumed that luxury goods were received here, and were sent for the consumption of the court and nobles attached to it. Also, this city yielded in great store silicate, wheat, barley, millet, rice, kermes grains, chick peas, lentils, and many other kinds of pulses.

Next, the city of Andava (Barbosa 1967:127) or Ahmedabad had strong walls which were made of fine stone and mortar. It had houses roofed in the contemporary fashion prevailing in Europe. Governors and revenue collectors were appointed here by the King of Cambay.

Several classes of people hailing from Gujarat took part in this branch of trade connected with South-East Asia. The great merchants of the ports of Gujarat were either Hindus, Jains or Muslims originating from outside Gujarat, but later residing there. The local Muslim converts were apparently of less importance, with the partial exception of the Bohras and the Khojas. Most of these 'foreign' Muslims were residents of Gujarat having their own houses there. Among these great merchants living mostly by sea-trade, it seems that Hindus and Jains outranked Muslims. The participation of the Gujarati nobility in trade during this period was an important feature. One such person was a Brahmin who rose to great eminence in the Gujarat nobility. He was Malik Gopi, who was the governor of Surat and Champaneer. He led a very luxurious life with splendour and gaiety. This was mainly because of the sea-borne trade he conducted. He had at his service *beneas* and *chatis* (Sastankeda 1928:326). Most of his trade was conducted with South-East Asian countries only (Pires 1967:42). Malacca was an important entrepot as far as trade was concerned and so Malik Gopi sent his fleet every year regularly there (Serrao 1973:112, Correa 1922:33).

A big group of merchants from Broach were found in Malacca in the early 16th century A.D. and presumably all of them reached there under the leadership of the great merchant Malik Gopi. The trade conducted by him did not cease after his death: it was continued by his son Mer Copin (Amir Gopi). He was very successful like his father and commanded authority

and great respect like his father. Several of his ships were engaged in trade with Malacca and other parts of the world (Correa 1922:543-4).

Besides the nobility there were many subgroups, such as the Jain merchants of a particular sect, or *jati* or the sarrafs or the *Bohras*. In a capsule form, the Gujarati society consisted of two layers. The upper one, made up of one group, was comparatively integrated. The lower was composed of many diverse groups. Within each group the degree of integration was analogous, to that in the upper ruling group, but solidarity between the lower groups was minimal.

The trade between Western India and South-East Asia, in the 16th century A.D., was a long distance trade and it consisted of the exchange of a number of commodities. The economic growth of Gujarat could be ascribed to this trade. This trade was an essential support to the trade being conducted with the Middle East and further on with the European countries. Thus, we may say that the Gujaratis were also agents of the European merchants, such as the Venetians and Genoans and this trade was quite profitable, since the Mediterranean commodities were exchanged for the Indian commodities. The Gujaratis were an important medium since the oriental spices reached upto the European countries. This shows the international importance of the Western Indian trade. The 16th century A.D. witnessed important events with regard to the growth of Gujarat as an important trading centre in the history of India.

The importance of Malacca as a converging point of commerce for the South-East Asian countries was another important feature. Apart from the fact that Malacca was geographically well situated, it was also a centripetal point where goods from all over South-East Asia were brought to be exported to Gujarat. The prosperity of Malacca depended mainly on trade. It developed as a transit trade centre. The commodities from various parts of South-East Asia were taken to Malacca and the merchants in return took them from there to Gujarat. Thus Malacca went on growing chiefly on the profit accruing from the exchange of commodities and the flocking together of the merchants. It may be assumed that Malacca depended almost entirely on trade. The statement of Tome Pires that Malacca cannot live without the kingdom of Cambay, could be extended and reframed as South East Asia could not live without Cambay. In other words, South-East Asian countries depended a lot on the commodities brought by the Gujarati merchants. Similarly, the prosperity of the kingdom of Cambay and its various port-towns was due to trade, especially the maritime trade. As already seen, Gujarat had a very important branch of trade with the East African coast and the ports of the Middle East. Despite the monopolistic attitude of the Portuguese, spices were taken to the ports of the Middle East after 1535 and subsequently these commodities were taken to Venice and other places in Europe. For importing commodities from Arabia and Persia to India the Gujaratis needed spices and other items for exchange. So the relationship with South-East Asia, especially with Malacca, was essential for keeping up this branch of trade. The Gujaratis could not

survive without trade and it is in this context that we could subscribe to *the view of Tome Pires that* Gujarat cannot live without Malacca.

The above discussion throws light on the nature of trade during the 16th century A.D. Western Indian trade with Malacca was in fact a long distance trade involving large volumes of commodities. Probably it was only as a stop-over and because of the necessity of collecting some more items that the Gujaratis visited the Malabar coast and the Maldives in the course of their commercial voyage, between Gujarat and South-East Asia. A number of items in huge quantities were involved in this trade, as has been already discussed. Presumably the Portuguese monopoly over this trade continued unabated, though all the merchants had to take the passes from the Portuguese. The cases of *Malik Gopi* and *Amir Gopi* are clear examples of Gujarati merchants taking *cartazes* from the Portuquese and sending their ships laden with commodities to the South-East Asian countries. There were also instances of merchants breaking the Portuguese monopoly and sending their ships without obtaining passes from the Portuguese. So the latter insisted, in all the treaties concluded with the Sultans of Gujarat, that the Gujarati merchants should take *cartazes* from the Portuguese official posted on the Western Coast of India (Biker 1881:86-88, Coute 316). Therefore it seems impossible to accept the view that the trade in the sixteenth century was just a peddling trade.

The main commodities exchanged were cotton textiles from Gujarat and spices from Malacca. Cotton fabrics were taken from Gujarat to all the important trading centres in and out of India. When these commodities were alone not sufficient, they fetched other commodities according to the needs of the various centres. Thus, for example, they got copper and other items from the ports of the Red Sea region and Persian Gulf to cater to the needs of the centres on the West coast of India and South East Asia. Similarly, pepper and other spices were collected from the South East Asian countries and Malabar coast for exchanging with the commodities on the coast of the Persian Gulf and the Red Sea.

Another important feature was the growth of urban towns in Gujarat. One of the most important factors for urban growth in a particular region is its external trade, especially maritime trade. Diu is a fine example for such urban growth. Diu had long distance trade with the ports of South-East Asia.

This trade brought multitudes of people into Diu. They were both the merchants and people from different spheres of life, but connected with trade. Finance was chanelled into trade, and due to this, more and more money was brought into circulation. The neighbouring people and states had to attune their activities to the urban needs of Diu. The requirements of Diu grew by leaps and bounds and these needs had to be met by the others. For example, the cultivators had to meet the growing needs of the urban population. Thus, it has been rightly stated that urban growth on coastal areas is due to external trade, especially maritime trade.

Another important factor was the increase in the production of commodities. That is to say, as trade increased with South-West Asia, Gujarat had to increase the production of her commodities. For example, cotton and indigo were produced in large quantities in Gujarat, because they had a market outside India; and South-East Asia depended mainly on India for these commodities. Some of the commodities though not essential here in India in particular, found ready markets outside India. And so as the demand for particular products grew, so also the production of the commodities increased, as a result of which the economy of Gujarat grew.

The rise of a middle class is another important feature. The middle class which was different from the others grew up as a result of trade. People from all walks of life contributed to the formation of the merchant class. These people established their sway between the two extremes of production and consumption. Goods that were produced had to reach in someway the places where they were needed. So far, the same people took upon themselves the transport of these goods to their destination. One could see the role of these middlemen gradually increasing as the demand for the goods also increased. Taking advantage of the situation, these men began to make a profession out of it by being the only 'medium' of connection between the producers and the consumers. In this case the Gujarati merchants played a very important role in the trading activities between Gujarat and South-East Asia. They took full charge of collecting the goods from the places where they were produced and carried them to places where they were needed. The profit earned by them was tremendous. Gujarati merchants could be found in various parts of the world.

Another very important fact was that Gujarat trade flourished inspite of the Portuguese monopoly. Due to the acquisition of some of the territories by the Portuguese, the trade between Gujarat and South-East Aisia, might have received a temporary set back. But this cannot be considered a serious matter, since the Portuguese were issuing *cartazes* to all the merchants who were interested in continuing the trade. Also, the payment for these *cartazes* was very nominal. i.e. one *tanga* per ship. Apart from this a number of Gujarati ships went to South-East Asia without acquiring the *cartaz*. They broke the monopoly disregarding the obligation of collecting *cartazes* and avoided the route that was usually patrolled by the Portuguese. It is also evident that the Portuguese could not control the trade in the Indian Ocean to the degree they professed to do.

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PHILOSOPHICAL ASPECTS OF TOLKAPPIYAM*

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Tolkāppiyam has been unanimously accepted by the Tamilologists as the earliest extant Tamil grammar. It is fundamentally a descriptive grammar of the Tamil language and literature. According to the preface *(pāyiram)* of this text, it is understood that the author was endowed with ascetic and yogic powers. In spite of the fact that the text is not at all an academic exercise on speculative thoughts, the above information that we get from the *Pāyiram* tempts us to postulate that the author should have had some knowledge of the religion and philosophy that were popular during his period. Since grammar is closely connected with the study of expressions of the people, it is reasonable to expect that some speculative expressions also should have found a place in this vast grammatical treatise Before attempting to trace the philosophical elements enshrined in *Tolkāppiyam*, it is essential to say few words about philosophy in general.

Western thinkers have envisaged many explanations and definitions of philosophy. Etymologically the word philosophy means 'love of wisdom'. Philosophy as a discipline endeavours to apprehend things that immediately and remotely concern man. It works from the known to the unknown. The facts of experience that stand the experiment of reasoning constitute the foundation of philosophy. The purpose of philosophy is to understand reality through reasoning and realisation. It provides ways and means to the attainment of the *summum bonum* of life. Its Indian equivalents are *meypporul, kāṭci and darśana.*

Though there are many sub-divisions within the large domain of philosophy, in this paper only some aspects mainly concerned with the means of knowledge and metaphysical thoughts have been briefly studied. First and foremost, let us concentrate on the portions in the text and its commentary that have some bearing on logic and epistemology which form the threshold to the domain of philosophy.

The Indian grammatical tradition insisted that the grammarians should possess sufficient and efficient knowledge in logic and epistemology in order to effectively present their grammatical theories. Even before the advent of *Nyāya* philosophy, the principles of reasoning should have existed in some form. It seems that Tolkāppiyar has been conversant at least with some of the sources

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of knowledge known as *pramāṇas* that are later developed in the various systems of Indian philosophy. Let us consider them one by one.

Perception:

It is known as *kātchi aḷavai* or *pratyakṣa pramāṇa*. It tops the list of the various sources of knowledge. Though it is admitted as a valid source of knowledge by all the homogeneous and heterogeneous systems of Indian philosophy, it has been variously explained in them. It has two inter-related aspects, viz, the indeterminate and determinate. When an object is presented to the senses, the chief characteristics of the object do not strike immediately the consciousness of the percipient. There is only a vague or general awareness of the mere existence of the object. Since this sort of apprehension is simple and pure, it is called *Nirvikalpakajñāna* which is an indeterminate form of knowledge. It indicates the bare being of a thing without its adjuncts, viz., colour, form or function. It seems that Tolkāppiyar refers to the expression of this sort of perception in the phrase, *"porunmai cuttal"* (*Tol.Col.* 66). In elucidating this technical phrase, Cēṉāvaraiyar, a great logician and commentator, rightly observes thus: *"uṇdu eṉpatu paṇpu mudalāyiṉa cuṭṭātu uṇmaiyē cuṭṭaliṉ vēṟu kūṟiṉār".* The usual example of this kind of perception given by the commentators is this: *"ā uṇdu"* (The cow is). According to the developed notion of *nirvikalpaka jñāna*, even the species of the object should not be identified. Anyhow, in the given example, the colour, form, function and genus of the cow are not presented to the senses for cognition. In the *Nyāya* school, this variety of vague perception is considered to be the first among the eightfold logical fallacies, and the Tamil tradition of this school explains this kind as *"poruḷ uṇmai māttirai kāṇdal"* (*Mani* 27:62). Nevertheless, it is deemed to be the first step in the process of conceptual cognition of an object. It is essential to note that this kind of cognition is held to be valid in the *yōgācāra* school of Buddhism as preserved in the logical works of Dignāga and Cāttaṉār. (Kandaswamy 1978:260-1). According to these logicians, it is free from imagination and it is direct cognition or presentative cognition.

In *Kiḷaviyaḳkam*, there is a reference to the type of doubtful cognition which seems to stand midway between indeterminate and determinate cognitions. (*Tol.Col.*23,24: *Poruḷ 168*). Tolkāppiyar suggests the mode of expression of doubtful cognition (*aiyakkiḷavi*). When one happens to perceive a distant object which, either due to remoteness or dimness or some other reason, does not present its real nature to the senses of the percipient, his doubtful expressions naturally should be in the interrogative form. The following illustrations are from the commentary of Cēṉāvaraiyar (*Tol.Cēṉāvaraiyam* 1958:21).

1. Is the form a male or female that appears (yonder)?

2. Is the form one or two (cows or animals) that entered the field (yonder)? (This question may arise on seeing the footprints of the cows also).

3. Is the form a pillar or person that appears - (yonder)?

4. Is it one or two cows that entered the field?

The doubt arises with regard to *tiṉai* 'category', gender and number. Tolkāppiyar also prescribes the mode of expression when one ascertains the real species of the perceived object. (*Tol.Col.25*).

In the *Nyāya* system, doubtful cognition is included in the list of logical fallacies. The definition and illustration to this cognition runs thus:

aiyam eṉpatu oṉṟai niccayiyā maiyaṟ ṟariyō makaṉō eṉṟal (Mani. 27:65-6).

Inference:

The second *pramāṇa* in the usual enumeration of the different sources of knowledge is *karutal aḷavai* or *aṉumāṉa pramāṇa* which is well-known to Tolkāppiyar, according to the text and its commentaries. In *Collatikāram Sūtra* 74, he enumerates the various contexts in which the third case occurs. *ētu (hētu)* is one of the meanings of this case. According to the commentator, it is of two kinds, viz.,

1. *Kāraka ētu:* This is casual or instrumental to make a thing. This is indicated by the phrase pattern, *"ataṉiṉ ātal"*. E.g., He became rich through trade.

2. *napaka etu:* This is causal to know a thing. This is indicated by the phrase pattern, *iṉṉāṉ ētu*. It is illustrated by Cēṉāvaraiyar thus: "*muyaṟciyiṟ piṟattalāṉ oli nilaiyātu*" (Since sound is born due to the vocal effort of a person, it is impermanent). Two different views are prevalent in the various systems of Indian philosophy with regard to the nature of sound. According to the *Mīmāmsakas*, sound is eternal. It is unproduced, ever existing reality. But the realists like *Sāmkhyas* do not subscribe to this view. According to them, whatever is a product is subject to change and decay. Since sound is a product it is impermanent. These opposing views are preserved in the logical tradition of *Maṇimēkalai* (29:59:76) when Cāttaṉār attempts to explain the valid form of proposition and the threefold aspects of reason.

In elucidating the same phrase under reference, Teyvaccilaiyār presented the oft quoted example of *aṉumāṉa.pramāṇa* thus:

"pukai uṇmaiyāṉ neruppuṇmai aṟika. pukai ētuvāka neruppuṇmai aṟika".

Aṉumāṉa is that source of knowledge which helps one to infer from the known effect the existence of its unknown cause. Eg. Wherever there is smoke, there is fire as in the oven or kitchen. Since there is smoke, there should be fire.

Hētu is also known as *linga* or symbol which being the effect is the indicator of its cause. Here smoke is *hētu* through which one infers the presence of its cause, fire. *Aṉumāṉa* is due to the inferential and experiential knowledge. The person, who has already seen uniformly the co-existence of fire and smoke, has the experiential

knowledge that both the cause and effect are always concomitant and co-present.

Iḻampūraṉar, the senior among the existing *Tol.* Commmentators, while elucidating the various kinds of cognition, mentions that mind has a vital role in the process of inference. He explains inference thus:

"aṉumāṉamāvatu pukai kaṇḍavaḻi neruppuṇmai kaṭpulaṉ

aṉṟāyiṉum ataṉkaṇ neruppu uṇḍeṉṟu aṉumāṉittal"

(Inference is that source of knowledge which ascertains the existence of fire, even when it is not seen, on seeing the smoke).

This example seems to be Pan-Indian, sicne it is also found in the logical works of almost all the systems of Indian philosophy written in Sanskrit and Tamil. In this context, the Tamil proverb, *"illāmal pukaiyātu aḷḷāmal kuṟaiyātu"* deserves special mention. It is really a wonder that a similar illustration is also given by Aristotle in his work on logic.

Hētu has many roles. When it occurs in grammar, it is generally associated with the third case, and also fifth case, and in rhetorics, it is called *hêtu alamkāra*, and in logic it is known as the middle term. In *Tolkāppiyam, ētu* is used in different contexts. Some of the usages are the following:

ētukiḷavi (Tol.Col. 92,93)

*ētuviṉ uraittal (Tol.Porul.*1 6 6)

ētu nutaliya mutumoḻi (Tol.Porul. 467, 479).

It is evident that Tolkāppiyar as a grammarian had sufficient acquaintance with the norms of logic and epistemology.

Verbal testimony:

The third *pramāṇa* is *nūl aḷavai* or *āgama*. It is otherwise known as *Āptavacaṉa* or trustworthy word. In the acquisition of knowledge one has to rely on the authentic words of the wise. Thus, the scriptures form a veritable and reliable source of knowledge. The great evolved soul known as *muṉaivaṉ* who is devoid of the Karmic impurities and is endowed with clarity of knowledge has created the original text. So also the *Mantras or Vāymoḻi* which according to the Tamil tradition, are the potential and prophetic utterances of the all perfected souls. Apart from these references, Tolkāppiyar often quotes his predecessors in support of his views in all the three portions of his grammatical treatise. These references may be taken to conclude that the grammarian has conceded *Āgama pramāṇa* as a source of knowledge.

Cēnāvaraiyar, in his commentary on *Col.Sutra* 245, explains the word *teḷivu* as that knowledge which is gained through the study of books *(nul teḷivāl varuvatu)*. This is a clear instance of verbal testimony. However, the validity of this *pramāṇa* has also been questioned in some schools of Indian philosophy.

Questions and answers occupy an important place in discussions and debates that come under the province of logic. Even in the ordi-

nary transactions of empirical life, they are equally important. Irrelevant questions and irresponsible answers are of no use. That is why Tolkāppiyar has constituted some rules for the valid expressions of questions and answers. (*Tol.Col.*13-16). Teyvaccilaiyār, unlike other commentators, has presented four types of questions and answers viz., *tuṇintu kūṟal, kūṟittumoḻital, viṉāviṉviṭuttal* and *vāyvāḷāmai* which have their equivalents in Buddhist literature, viz., *ekāmsa vyākaraṇiya, vibhajya viyākaraṇiya, pratiprccha vyākaraṇiya* and *sthāpaniya.* (Kandaswamy 1981: 29-31). It is beyond the cognition of the present author whether Tolkāppiyar had in his mind all these ideas while he wrote the above *sūtras* under reference.

Comparison:

Uvamai or *upamāṉa* has been discussed in three different spheres. In grammar, the fifth case-sign is said to convey the meaning of comparison. In rhetorics, it is treated as a primary figure of speech. In epistemology, it is considered to be a *pramāṇa* or source of knowledge. In *Tolkāppiyam,* we have all the three aspects of *Upamāṉa.* Here, our concern is only with regard to the third aspect. In the introduction to the chapter of *Uvamai-iyal,* Iḷampuraṇar elucidates the twofold usefulness of comparison thus:

> *Itaṉāl payaṉ eṉṉai matippatō eṉiṉ, pulaṉ allātaṉa*
> *pulaṉātalum, alaṅkāramākik keṭṭārkku iṉbam payattalum (Tol.Porul.Iḷampuraṇam* 395).

According to him, the fundamental purpose of analogy is to enable one to know the unknown things. This has direct reference to the field of epistemology. The second function is to serve as a literary embellishment in order to provide the literary flavour to the listeners, and this aspect is connected with rhetorics. His illustration to the epistemological aspect of comparison is as follows:

> *"Āppōlum āmā eṉa uṇarttiya vaḻi, ataṉaik kāṭṭakattuk kaṇṭāṉ*
>
> *muṉkētta oppumaipaṟṟi iḥtu āmā eṉṟaṟiyum"* (*Tol.Porul.Iḷampūraṇam* 395).

A town-dweller, who knows only a domestic cow is informed by the forester that the forest cow (*gavaya - āmā*) is just like the domestic cow. When he goes to the forest and witnesses an animal possessing the resemblances of a domestic cow, he determines that it should be the forest cow. This analogy is usually given in the *Nyāya Sūtra* and *Maṇimēkalai.* Cāttaṉār defines comparison thus:

> *uvamam āvatu oppumai aḷavē (Mani:* 27:41).

It is probable that the word *uvamai* or *uvamam* is derived from *oppumai* and not from *upamāṉa.*

Anyhow, it is to be understood that the epistemological significance of comparison was strongly felt at least during the period of the commentators of *Tolkāppiyam.*

Presumption:

If the last aphorism in *Porulatikāram* is not spurious, then it may be taken that Tolkāppiyar had known *arthāpatti pramāṇa.* In this aphorism,

one of the *tantrayuktis* is known as *"uyttukkoṇdu uṇartal"* which seems to be a synonym of *arthāpatti*. The familiar example is this:

pakal uṇṇānparuttiruppāṉ i.e., If a man does not eat during the day time but still continues to be fat, *then it is presumed that he should* eat sufficiently in the night. Different examples are also given in other texts. According to one of them,[1] it is also called *poruḷ aḷavai*, *and the definition is "eduttamoḻi iṉamceppuvatākum"* which is really a restatement of *Tol.Col.Sutra* 60. An expressed statement may suggest related ideas which are implied *in the same statement*. The phrase, *"edutta moḻi"* has also been used as a logical term in Campantar's hymn. (*Tēvāram* 3:54:5).

There is one aphorism in *Poruḷiyal* which enlists the various abstract things which could not be comprehended merely by the sense organs, but could be grasped through the faculty of mind.[2] This aphorism sheds some light on the process of knowing. Epistemological enquiries are essential to penetrate the mysteries of the universe. Though a systematic discussion of the theory of knowledge is not found, the rudiments of the sources of knowledge are clearly noticed both in the text and the commentary.

Soul and matter:

Next let us proceed to trace the metaphysical aspects found in *Tolkāppiyam*. The significant principle in the metaphysical domain of the various systems of Indian philosophy is the differentiation between soul and matter. Our ancients contemplated that there are three ultimate realities, viz., the Absolute god, the myriad souls and the root principle from which the universe is evolved. In some systems, the first two are taken to belong to one group, and the third remains a separate entity. Various terms are used to denote soul and matter in the different systems:

Soul	*Matter*	*System*
1. *ātman*	*an-ātman*	Most of the Vedic schools
2. *puruṣa*	*prakṛti*	*Sāṁkya*
3. *Jīva*	*Ajīva*	Jainism
4. *Nāma* (psychical aspects)	*rūpa* (physical aspects)	Buddhism
5. *Paśu*	*Pāśa*	*Saiva Siddhānta*
6. *Cit*	*acit*	Vaisṇavism

The dichotomy of soul and matter was not unknown to Tolkāppiyar. In this regard, the following portions are worth mentioning: (*Tol.Porul.* 71, 200, *Col.*57).

1. *"uyirē uḍambē"*

2. *"cenṟa uyiriṉ niṉṟa yākkai"*

3. *"uḍambum uyirum vāḍiyak kaṇṇum"*

Further, he has classifed the different kinds of souls on the basis of the number of senses that they possess (*Tol.Porul.* 571-8). Accordingly, the grass, trees etc., that have only the sense of touch are grouped to be the primary kind of souls having one sense. The snail, conch etc., that possess the senses of touch and taste are treated as the second variety of souls having two senses. The termite, ant etc., possess also the sense of smelling, in addition to the above two, and hence they belong to the category of souls having three senses. The crab, beetles etc., have also the sense of perception in addition to the above three, and they belong to the group of souls possessing four senses. The quadrupeds, birds etc., possess also the sense of hearing and they come under the class of souls having five senses. The people who have the discriminating faculty are endowed with six senses - the sixth one being the internal sense organ, viz., mind. There are others also in each of the six groups.

This rational classification of souls is unique in *Tol.* Some scholars on the authority of the superficial and trivial resemblances found between *Tol* and the Jain Scriptures pronounced that the former was influenced by the latter. However, a close study of the two sources reveals the fact that they reflect two different traditions of thought. Further, in the introductory portion of *Tiruvācakam,* one can find the enumeration of almost all the kinds of souls that are mentioned in *Tol.,* while Māṇikkavācakar unfolds the spiritual transformation of his own soul. (*Civapurāṇam* 26-32).

That which differentiates soul from matter is consciousness. This idea is clearly brought out in the commentary of Cēṉāvariyar: " *uyir ettaṉmaittu eṉṟu viṉāyavali uṇartal taṉmaittu eṉṟal celvaṉ iṟaiyām*". Though it was understood that the intrinsic nature of soul is consciousness and that of the matter is insentience, the two are treated indiscriminately in some of the usages. (*Cēṉāvaraiyam Tol.Col.*57)

1. *"aṟam ceytu tuṟakkam pukkāṉ"* (He who performed virtues entered heaven). Here 'he' denotes not the body but the soul.

2. *"uyir nīttu orumakaṉ kiḍantāṉ"* (One man lay there deprived of his soul). Here, '*man*' *denotes not the soul but the body.* According to Teyvaccilaiyār, *uṭampu* in one context denotes the subtle body consisting of the internal elements viz., mind, intellect, ego and the five subtle elements determined by the individual deeds which are instrumental for the transmigration of the souls. Also, the same word meant the *prakṛti,* the primal nature or the primordial matter from which all the psychical and physical aspects have been evolved. According to one aphorism, the universe is the amalgam of the five gross elements viz., the earth, water, fire, air and ether

(*Tol.Porul.*635). Though the products are ephemeral, the primordial matter is considered to be a reality.

The classification of the alphabets also indicates the unique features of soul and body. The alphabets are known as *uyir* and *mey*. Though these words mean respectively the vowels and consonants, they also mean the soul and body. The vowels are considered to be the soul-like sounds that animate the body-like consonants. Though the vowels conjoin with the consonants, their nature will not change. (*Tol. Eluttu.* 10). The appearance of soul (vowel) is through the media of body (consonant) (*Tol.Eluttu.*18). Such utterances in *Tolkāppiyam* indirectly bear testimony to the fact that Tolkāppiyar very well knew the difference in the nature of the two realities, viz., soul and matter.

The time principle is an important element in the history of evolution. Tolkāppiyar mentions time principle in many aphorisms. (*Tol.Col.*57,112,198 etc.). It is considered to be one among the two primary objects. (*Tol.Porul.4*). It is also divided into past, present and future depending upon the action finished, being done and undone.

Maraiñāṉa Tēcikar, one of the commentators of *Civajñāna Cittiyār*, interprets ingeniously the aphorism 112 in *Collatikāram* in the light of *Saiva Siddhānta*. (Dēvasēnāpathi 1981:16-17). Though the commentary actually reveals the author's ability, it cannot be taken that Tolkāppiyar has meant what all the commentator has stated.

On God:

The third aspect that deserves our attention is the concept of God. *Tol* mentions Māyōn, Cēyōn, Vēntan and Varuṇaṉ who are assigned to the fourfold geographical divisions of Tamil Nādu. (*Tol.Poruḷ.*5). The first two are very prominent in the Caṅkam classics. There is a reference to Koṟṟavai. (*Tol.Porul.*62). These are treated to be personal gods. But with regard to the absolute nature of the ultimate reality, there are some indications in *Tol.* According to Nacciṉārkkiṉiyar, the aphorism 46 in *Eluttatikāram* contains the concept of immanent God. The literal meaning of this aphorism is this: "The movement of the consonants depends on the sound *a*". But the commentator contemplates that the presence and influence of the primary sound *a* is felt in all the other sounds, whether they be vowels or consonants. Here *a* symbolically represents the Supreme God; the rest of the vowels denote the myriad souls and the consonants indicate the matter. To support his view, he quotes *Tirukkuraḷ* and *Bhagavadgītā*. This sort of analogy gained currency in the *Tirumurai* literature and *Meykanta Sāstras*.

The words that denote God in *Tolkāppiyam* are *katavuḷ*, *teyvam* and *tēvar*[3] The word *iṟaivaṉ* which meant God in other works is used in *Tol* to denote a king. (Tol.Porul.36). *Iṟai* means tribute and hence *Iṟaivaṉ* denotes a supreme king who receives tribute from his subordinate kings or chieftains. Some scholars suggest that *kaṭavuḷ* etymologically indicates the ultimate principle that transcends the limits of human knowledge. (Vellaivaranan 1970:130). But Dr.Hart opines that the word *kaṭavul* is made up of *kaṭam+uḷ*, *kaṭam* meaning *nērttikaṭaṉ* (i.e. the debt of offering) and denotes a personal god to whom

the vowed people offer their debt as a token of gratitude in fulfilment of their wishes. However the correctness of this explanation is to be confirmed. According to Naccinārkkiniyar, *kantaḻi* indicates the Absolute principle who is independent and transcendent of all sensorium.

Tol denotes God as "*pālvarai deivam*", i.e., God who classifies and distributes the deserts to the concerned individual (*Tol.Col.* 57). Though the agent neglects or forgets his own deeds, the all-seeing and all-knowing Absolute power never forgets to take them into account and to allot the fruits of actions to the individuals impartially. Thus God is treated by Tolkāppiyar to be the Moral Governor. His belief in the divine dispensation is unassailable. In one aphorism, God is designated as the Ancient one, who by nature is devoid of the impurities accrued from the twofold *karmas* and who has revealed the primary text. (*Tol.Porul.*640). He is also known as the Excellent one. (*Tol.Porul.*190).

According to some, the word *teyvam* denotes a minor God. This hypothesis does not hold good, since the same word in several contexts denotes the great God. The reason why Tolkappiyar has placed *teyvam* first in the list of *karupporul* is not easily understood. Dr.Ilakkuvanar observes: "Tolkāppiyar has put God first in the list of things which are called *karu* -- that which is fundamental and indispensable for leading the life; the food comes next to God. So it is to be understood that they have valued the conception of God above all".[4] Some others considered that the things that are included in the category of *karupporuḷ* are objects of experience.[5] So, God is not something that exists out of the experience of a true seeker. He becomes the subject of experience like other objects that are understood in the empirical plane.

Doctrine of karma:

This doctrine belongs to the national stock of Indian philosophy. Except the Cārvākas, the Indian materialists, all the others admitted and advocated the doctrine of karma. In Tolkāppiyam, *karma* is denoted by the words *vinai* and *pāl*. Nobody can escape from the consequences of one's own actions. There is no exemption from the grip of the results of deeds. We have already seen that this doctrine is well mentioned in the phrase "*pālvarai teyvam*". The aphorism that defines a verb also serves as a definition for *karma* (*vinai*). "*Karma* is that principle which will not change, but will appear at the appropriate time"—is the metaphorical meaning that is understood in the aphorism under reference. (*Tol.Col.* 198).

According to the Jains, the karmic effects will automatically reach the respective persons without the help of any agency. But, Tolkāppiyar postulated the necessity of an all intelligent being to apportion the deserts to the doers, and thus he was not a Jain. According to Teyvaccilaiyār, *mantiram* in *Tol.* denotes the five syllabled *mantra*, *Namaśivāya* (Kandaswamy 1977:270-4). However, the first occurrence of this *mantra* in the Tamil classics is found visible only in *Cilappatikāram.* (11:128). Dr.S.Radhakrishnan considered that the Arivars mentioned in *Tolkāppiyam* who chalked out the path to freedom and bliss are the

forerunners of *Saiva Siddhānta* philosophy.[6] According to Naccinārkkiniyar there is a reference to the *yōga* philosophy in *Tolkāppiyam.*[7] Since the yōga system is also found in the Indus Valley Civilization, its antiquity is apparent.

The concept of impermanence is a salient feature common to most of the systems of Indian philosophy. Tolkāppiyar reminded the transient and evanescent nature of youthfulness, opulence and body in order to speed up the actions required for the fulfilment of earthly and heavenly perfection. It is purely a Tamilian concept to name the various kinds of impermanence as *kāñci* which educates one to realise the folly of mundane life and to march on the path of eternal bliss. (*Tol.Porul.*75:16-14). There are many references to the ethical norms without which the study of philosophy is barren. (*Tol.Porul.*44,74,-75,etc.). Ethics is really the fragrance of philosophy. The threefold aims of ideal life are also noted. (*Tol.Porul.*[8] 9,411). Even it is not clearly mentioned, Tolkāppiyar has sufficiently hinted about the eternal and everlasting bliss.

Conclusion:

The *Tolkāppiyam* is not basically a text on religion and philosophy. Yet this text has found a pretext to deal with matters philosophy in an indirect manner. Tolkāppiyar has very closely noted the Tamil made of life and expression during his period and utilised the obervations to write about the philosophical background of their culture. From the above study we get an excellent account of the basic principles of epistemology and metaphysics known to the Tamils of the age of Tolkāppiyar.

NOTES

1. *Aduttula kōtum porul caruttapattiyām; atu tān edutta moliyinam ceppuva tākum; ivvūrilular padaittavar ennir padaiyātavarum undenrum, ivan koduppavan ennir kodātārum undenrum kolvatuvē.*

2. *Tol. Porul.* 243. Also *Tol* refers to the intelligent people who had the rare skill to feel things through the sense organs of eye and ear. *vide, Tol.Porul.* 271. This information also gives some clue to the process of knowing.

3. (a) *katavul,* see *Tol.Porul.* 81,85,144.

   (b) *teyvam,* see *Tol.Col.* 4, *porul.* 20,50,113,268,415.

   (c) *tēvar,* see *Tol.Porul.* 442.

4. *vide.,* His translation of *Tolkāppiyam* with critical notes, p.482.

5. *vide., Philosophical Heritage of the Tamils* (Madras, 1983), pp.365-6.

6. *vide., Indian Philosophy, Vol. II, pp.* 722-23.

7. *vide.,* his commentary on *Tol.Porul.* 77. *nāliru valakkil tāpatap pakkamum.*

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THE TAMIL NADU COAST -- HAS IT UNDERGONE SUBMERGENCE*

B.M. Thirunaranan

The topics of this seminar presuppose (1) the submergence of a part of the coastal tract, where human settlements had existed earlier, and (2) the survival, *in situ*, of the remains of these settlements. From the references in Tamil Literature, a high level of culture appears to have prevailed in these settlements and hence the submergence has to be a relatively recent event. Any submerged coastal tract will have several distinctive topographic features by which its submergence can be definitely established. Let us therefore examine the coastal features of Tamil Nadu and see what they show.

Any one will be struck by the succession of smoothly curved or straight stretches which form the entire coastline of Tamil Nadu. This is its outstanding characteristic. Such gently curved or straight coasts result from the long continued action of waves and currents. It has to be noted in this context that unlike their destructive action, the constructive action of epigenic forces is slow and the landforms resulting from such action take a long time to acquire the shapes we see now.

Two major features which stand out prominently along the coast are (1) the long peninsula projecting eastwards from Ramnad, and (2) the Sriharikota Island. Both these are examples of constructive landforms. The Ramnad peninsula has been formed essentially due to the shelter provided by Sri Lanka; it is partly the delta of the Vaigai river, and partly due to the accumulation of sand by the waves, on either side of the slender "finger-delta" of the Vaigai. Such deltas are not common, and are formed only where the sea is exceptionally calm. Sriharikota island is, from what we know, entirely a product of the waves and winds, which have built this long strip, and thus "straightened" the coast. The same explanation accounts for the extraordinarily straight sixty mile stretch of the Sea-face of the Kaveri delta, fully exposed to the full force of the winds and waves from the Bay of Bengal.

All along the coast, there are minor landforms, like the spits near Merkanam and Ennore, and sand dunes. These spits are long narrow sand strips, at the mouths of rivers which are nearly always growing northwards, under the influence of the northward flowing coastwise current. The sand dunes are formed by the winds heaping up the beach sand, often as long ridges more or less parallel to the shore. In some

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places the dunes form a sandy belt, several miles wide. Whenever wells have been dug in these sandy areas, it has been observed that they rest on clay beds containing shells and other remains of animal species which are still found living in the sea. This shows that the clay bed was deposited not very long ago, when sea-water had access to the area. Later, the marshy area has been covered by the beach sand blown inland from the sea-shore.

In Rameshvaram island, and in the many islands of Sri Lanka which are on the other side of Palk Strait, dead coral formations are found. These must have been living, growing formations under the sea, which have become dead, as a result of the sea level being lowered. The string of small islets which we find a little distance from the shore, between Tuticorin and Mandapam are also formed of similar coral rock. These islets are the visible tops of a fringing coral reef, the submerged portions of which are still living and growing below sea-level. Further South, along the Tirunelveli coast, Bruce Foote has noted the occurrence of sandstone beds containing shells of species still living in the sea. He refers to them as 'littoral concrete". These layers are well above sea-level now, as a result of the fall in the level of the sea. These sand-stones and raised coral reefs are positive evidences of the sea-level having fallen, and not risen, during geologically recent times. What we find along the Tamil Nadu coast do not show submergence, but are undoubtable evidences of emergence.

This problem drew my attention over fifty years ago, soon after I came back with a degree in geography, and over the years new facts and ideas have come up. About 1970, the late Prof.Balakrishnan Nayar brought me a preliminary draft of a paper he was preparing on the Iron Age Settlements in the Tambraparni basin, for my comments. He had suggested, following Caldwell, that the mouth of the Tambraparni became too shallow for the ships of those days due to silting. On examining the Survey of India maps I could find no evidence of silting. This necessitated finding an alternative reason for the Tambraparni becoming unnavigable. At the beginning of this century Professor Edward Sucss had put forward the idea of "eustatic changes" of Sea-level, resulting from the melting of the ice-caps and floating ice masses on high mountains and in the Polar regions. This theory has been worked up and supported by studies of the glaciated regions in Europe and North America.

When the ice melts, the water flows into the sea and thus the general level of the ocean is raised. It has been calculated that when the ice-sheets were at their maximum extent, the general level of the oceans would have been about 200 feet lower than at present. This would appear to favour submergence; but the snag in it is that it will take us so far back in history (25,000 years, or thereabouts) that we cannot maintain that a high level of culture prevailed in Tamil Nadu when the rest of the world was in the neolithic and palaeolithic stage.

I then obtained the Hydrographic charts of this coast and examined them carefully. Everywhere the sea floor close to the shore showed

only "sand" and "clay" and I did not find any mounds or other elevated portions which could be the remains of old settlements.

The basis of the assumption that the settlements were "submerged", appears to be in the Tamil expression *"kaḍal koṇḍu viṭṭatu"*. It is therefore necessary to explain that the sea can equally effectively "swallow quite easily land areas large enough to provide sites for several towns and villages by another quite different process, namely coastal erosion. North and south of Madras city we see this happening before our eyes. Coastal erosion, acting laterally, will be a localised phenomenon, but it can occur anywhere, and as in the area near the Foreshore Estate in Madras the causes are not always clear. It need not be a persistent phenomenon, because the topography will get adjusted in course of time. Coastal erosion is mainly due to the pounding action of waves, and can be very destructive. The chances of remains of towns and villages surviving such action are slender.

Let me in conclusion, review the "finds" so far made of ancient sites. Koṛkai and Kāyal survive under the same names, at inland sites in Tambraparni Valley. Puhār is another site, some distance from the sea. At the mouth of the Pālār Roman amphorae were found in a well during excavation, and extensive stretches of broken potsherds occur nearby. Last week, another Roman site has been found at Alagaṉkulam, near the Vaigai mouth. Then we have the much better known remains at Arikamēḍu. Its location on a navigable stretch, some distance from the sea, has to be noted. The small sailing vessels of those days were incapable of facing rough weather, and hence preferred sheltered anchorages. Their shallow draught enabled them to go some distance upstream, and hence the "island location" of the several ancient sites so far identified. The recent find at the Vaigai mouth suggests that other similar sites should be more fully examined.

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